JPRS 77146

12 January 1981

West Europe Report

No. 1683

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SWAELEN INTERVIEWED ON HANDLING OF NATIONAL DEFENSE, NATO PROBLEMS

Brussels DE STANDAARD in Dutch 12 Nov 80 p 2

[Report on interview with Defense Minister Frank Swaelen, former air force reserve commander and Social Christian Party (CVP) parliamentary expert on education, and graduate of the Harvard International Seminar, by G. Des.: "Swaelen, the Political Management at National Defense"]

> [Text] Frank Swaelen, the new defense minister, has yet to get used to his office, to the Pentagon decor his predecessor Vanden Boeynants had installed several years ago in the restored hotel on the corner of Lambermont Laan and Kunstlaan. To an equally great extent, he still has to get used to his new dossiers. In the course of the past week, the general staffs came across the floor, concerned and bringing many urgent priorities. This week the labor unions are following them, bringing their packages of demands.

After the short Poswick intermezzo, the armed forces, on their part, have yet to get used to the new minister. And recover from their surprise. How did the education specialist Swaelen wind up in national defense?

"Indeed, I am the education specialist for the CVP," Frank Swaelen says. "There is a story attached to that. In the turbulent school battle period around 1958 I was with the parents' association in Guimardstraat. After that I went to the school pact commission as national secretary of the CVP-PSC [Flemish and Walloon Social Christian Parties]."

"But," the new minister--former reserve commander in the air force--adds, "for 12 years I have been handling defense problems like SALT in the Chamber Commission for Foreign Affairs. The party gave me the responsibility for the big military problems of recent years, such as the purchase of the F-16 and the rocket issue. Finally, in the European socialist party I am the Belgian delegate to the committee on peace and security.

Swaelen's interest in international and security problems flowered, as in Tindemans' case and for that matter at Tindemans' recommendation, at the Harvard International Seminar, where he studied with Kissinger, "a superior intellect." (Later Swaelen sent Martens, in turn, to that seminar.)

"Outside observers were, perhaps, surprised after all," Swaelen admits, "but Tindemans and Martens knew my curriculum [vitae]. Furthermore, a minister of national defense is a member of the government and now also of the political core cabinet. He does not deal exclusively with defense, but with all of the important political problems."

None of Swaelen's famous predecessors, Spinoy, P.W. Seghers or Vanden Boeynants, was recognized as an army specialist when he assumed his post. What it comes down to is political management, the work in the cabinet and the parliamentary delegation. And Swaelen has the impression that the minister of national defense is fortunate in that he can count on very good and effective support from his administration, that is, from the military staffs.

That political management will suit Swaelen. He is not a vote getter, but a party man. As a recent doctoral graduate in law, he quickly found his feet in the CVP youth, and as Tindemans' successor he was the national secretary of the CVP-PSC for 10 years. He earned his spurs in the Tweekerkenstraat.

Pinned Down

The new minister of national defense is not letting himself be pinned down to policy statements yet. He still feels it is too early for that. He does indicate a few general attitudes, as in his answer to the question whether the army is not lacking in motivation and whether the soldiers feel that they are adequately defended politically.

Swaelen: The minister must defend the personnel of National Defense at any rate, and make it clear to the nation that it must be possible to carry on an open discussion about the army without preconceptions and without complexes. At the same time, the social discussion in the army must be continued.

The minister was informed that Belgium does not enjoy a very good reputation in NATO. "This week I am taking part in the NATO Nuclear Planning Group, and they will let me know for sure then. If in fact we do not have a good reputation, we will have to work on that. The governing declaration is clear on that point: Belgium is a proper and loyal NATO partner." And the atomic missiles? "The governmental decision of 19 September remains the gospel."

Swaelen further announced that the establishment of the joint parliamentary army commission is a number one priority. It is already in being. The first task of this commission is to provide a definitive decision with regard to the extra oil calculation [an addition to the defense budget supposed to compensate for the increased cost of oil], which is currently impounded in a provisional fund in the prime minister's keeping. When pressed, the minister states that the commission can also doubtless address itself to the problem of the universal service obligation. (Only one-third of the annual contingent enters the service, and none of the women.)

The minister admits it, "The women soldiers do indeed present a problem. With the women, the military organization is running into the laws and conventions concerning equal treatment and special protection all at once. We are going to have to look to see how countries with experience in the matter solve that. Belgium did not invent the woman soldier."

Minister Swaelen of National Defense took "leave" as mayor of Hove, where he would have had to celebrate his 10th year in office on 1 January. The work at National Defense is already more than a full-time job and then there is also the weighty political core cabinet. In recent years political work has set a devilish pace. Sadly enough, Swaelen concludes, fulfilling the political mandate in a community which can still be governed can no longer be fitted in.

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PROS, CONS FOR USE OF COAL, NUCLEAR FUELS AS ALTERNATIVES

Milan ENERGIA NUCLEARE in Italian Jun-Jul 80 pp 241-265

[Article by E. Lorenzini and B. Dalledonne, of the Institute of Technical-Thermotechnical Reactor Physics, Faculty of Engineering, University of Bologna: "Nuclear Energy and Coal: Comparison between Two Energy Sources Alternative to Oil"]

[Text] Abstract--Nuclear Energy and Coal: a Comparison between Two Energy Sources Alternative to Oil. In this paper a comparison is made between two energy sources which can be a real alternative to oil, if it is desired to keep industrial development at a rate steady enough to ensure reasonable well-being to larger and larger population strata. The pros and cons of the nuclear and coal choice, respectively, are considered, and the conclusion is that at present the only possible policy for Italy is one aiming at symbiosis between nuclear and coal energy.

Introduction

After the oil crisis of 1973, intense debate was initiated throughout the world on the energy future, and especially on the question of what primary source to choose as an alternative to oil. Italy, which belongs to the elite of the most highly industrialized countries, has obviously not been spared this dilemma. In the present article, the potential contributions to coverage of Italy's needs offered by two primary sources that are quite promising for both the medium and long term--nuclear energy and coal--are examined and compared in their most important aspects, technical, economic and strategic.

This examination is based on the assumption that world demand for oil will exceed supply by the year 2000. This hypothesis is grounded not only in the industrialized countries' persisting tendency to increase consumption (albeit at an annual rate of increase--2 to 3 percent--that is far lower than the rate of the precrisis years--6 percent), but also in the growing use of this source by the developing countries. The same hypothesis holds true, on a smaller scale, for natural gas as well.

After an initial period in which nuclear development was favored to an excessive degree, the Western world has gone in the direction of diversification of energy sources, so as not to repeat the historical error of playing favorites with a single source. In what follows, we shall refer to the forecasts in the report of the WAES (Workshop on Alternative Energy Strategies [1], an international working group led by C.L. Wilson and set up in 1977 on the initiative of MIT for the purpose of studying the complex and overall problems of energy and indicate the possible solutions, on the well-founded hypothesis dthat the world is soon going to face a serious and general energy crisis). The WAES, after identifying the variables that determine energy supply and demand in the various countries and geographical areas of the world, furnishes its forecasts within the framework of various plausible futures, called "scenarios." Among these, two in particular seem closest to the Italian reality of today and of the coming years (up to 2000). Their characteristics are summarized in Table 1.

After these introductory remarks, let us examine the oil-alternative sources considered in the present article, limiting ourselves to the most important aspects.

Nuclear Energy

At present, nuclear power plants are used almost exclusively for production of electrical energy, which is a clean form of energy, easy to use and transport, and one for which, in certain cases, there is no substitute. It is advisable to recall here that one of the possible medium-to-long-term energy strategies calls for massive adoption of electricity for end uses--that is, the so-called "all-electric" solution (the electricity not being obtained from oil, which is being exhausted), as opposed to the present "all-oil" solution. It is obvious enough that the incentives to use and production of electrical energy could be translated into massive contributions to the development of production from nuclear fission, first, and eventually from nuclear fusion, later. As for the effects on the economies of the industrialed countries if such an energy policy were adopted, we shall devote better attention to them later in this article.

Reasons for Opposition to Nuclear Energy

In recent times, the nuclear alternative has been running into increasingly stronger opposition from public opinion. The reasons underlying the rejection of this energy source are the following:

(a) recourse to nuclear power increases the country's dependence on the Western world, and the United States in particular, which are suppliers of fuel and technologies;

(b) recourse to nuclear power means centering the production of electrical energy in large plants which, because of sabotage, terrorist outrages, etc, would have to be rigorously superintended and protected, as would also all the nerve points of the immediately surrounding territory. This would mean having to strengthen beyond measure the forces assigned to such duties. One can also hypothesize the concentration of such plants in a limited number of very large energy-production centers, which could lead to concentration of a country's real economic and political power in few hands;

(c) it is unacceptable to develop industrially a technology that is still not well-understood and controlled, especially as regards the operating safety of the plants and management of radioactive wastes (which remain active for centuries, and in some cases, for millenia);

Table 1--Scenarios Closest to the Italian Reality

Determinant Variables	Possible Values	Designation of scenarios and values assumed for the various determinant variables			
		C	C1	D	D7
Annual rate of increase of GNP (%)	{4.5-2.5* {3.5-2.4**	4.5	3.5	2.5	2.4
Assumed increase in price of crude oil (1975 $/bbl)	{Constant at 11.50 {Rises to 17.25	Rises to 17.25		Remains constant at 11.50	
Preferred source to take place of crude oil	{Coal { or {Nuclear	--	Coal	--	Coal
Political response	{Intervention { or {Nonintervention	Intervention		Nonintervention	

Notes:
--Scenario C is assumed up to 1985 and leads to scenario C1 in the period 1985-2000.
--Scenario D is assumed up to 1985 and leads to scenario D7 in the period 1985-2000.
* Hypothesis valid for the period 1976-1985.
** Hypothesis valid for the period 1985-2000.

Table 2--Hypotheses about Italian Energy Dependence up to 2000 (%) [1]

	1985		2000	
	C	D	C1	D7
Dependence of foreign sources, including nuclear energy	84.1	83.4	87.7	84.6
Dependence on oil	63.0	65.2	51.9	53.3
Incidence of natural gas	15.8	13.1	14.2	14.6
Penetration of nuclear energy	7.2	7.7	13.9	12.8
Incidence of renewable sources	7.0	7.0	8.9	10.6

(d) nuclear energy is the worst creature generated by science, because it takes the form of a physical entity, such as radiation, which is not perceptible by the sense organs, kills silently, alters man's genetic patrimony and threatens the balance of nature with the radioactive wastes arising from it;

(e) finally, nuclear energy is not necessary because energy needs can be covered by other natural sources, already widely available, such as solar, wind, geothermal, tidal and biomass energy as well as the various fossil fuels such as coal, oil sands and shale, etc.

Examination of the Reasons for Opposition to Nuclear Power on the Basis of Quantitative Data

We shall now consider these accusations, moving from the level of general and emotional assertions to the concrete level of quantitative data.

Energy Dependence and Italian Policy

Table 2 summarizes Italian energy dependence to the year 2000 and constitutes the best basis for responding to the charge in point (a).

To have a term of comparison, we present in Table 3 the provisional data for the Italian energy balance-sheet for 1979.

Table 3--Italian Energy Balance-Sheet in 1979 (Provisional Data)

	10^6 tons of oil-equivalent	%
Coal	11.2	7.6
Natural gas	22.8	15.5
Crude oil	102.0	69.4
Hydro-geothermal	10.4	7.1
Nuclear	0.6	0.4
Total	147.0	100.0

The data of Table 2 therefore hypothesize for 1985-2000 Italian dependence on foreign sources on the order of 80-85 percent, including the contributions of nuclear energy. Nevertheless, the figures should be read more attentively. Let us see, in fact, what the WAES hypotheses are for nuclear capacity installed in Italy in the period indicated and let us also evaluate what the major role of oil would be in case of failure to develop nuclear power (see Table 4). Indeed, if we exclude the contributions of the nuclear alternative, we will have to import larger quantities of fossil fuels, since really significant development of solar systems for electric-power production is unthinkable. Every LWR [Light-Water Reactor] nuclear power plant of 1,000 MWe permits a savings of 1.5 Mtep [thousands of tons of oil-equivalent] per year; if instead of 20,000-30,000 MWe nuclear installed in 2000 there was available only 10,000 MWe nuclear (according to the forecasts of the National Energy Program of 1975-77), the increased demand for oil would be 15-30 Mtep/year, so that not only would there be no decrease in our dependence on foreign sources but the degree of uncertainty in energy supplies, inevitably subject to very unstable international political situations, would be aggravated.

Table 4--Allocation of Resources in Production of Electrical Energy in 1985 and in 2000 (GWe at the Winter Peak) (Source: WAES)

	1985		2000	
	C	D	C1	D7
Capacity required at the winter peak	56.0	42.7	93.5	58.3
Capacity installed at winter peak in 1977	35.6	35.6	35.6	35.6
Additional operating capacity required	20.4	7.1	57.9	22.7
Hydroelectric	1.7	1.7	12.2	12.2
Geothermalelectric	0.7	0.3	12.2	12.2
Modulation and pumping	4.2	2.6	11.2	7.0
Natural gas	--	--	2.8	1.7
Coal	--	--	18.0	8.0
Solid urban wastes	--	--	0.7	0.4
Oil	--	--	16.6	7.0
Nuclear	10.0	10.0	30.0	20.0

Note: We have not given values for the contributions of natural gas, coal, oil and solid urban wastes in 1985, since the WAES report furnishes only general forecasts for thermoelectric capacity installed independently of the primary sources.

Before concluding the response to the antinuclear charge contained in point (a), it is surely advisable to stress that the capacities attributed to nuclear energy in the preceding projections are far too optimistic for the short term. In Italy today, installed nuclear capacity is still limited to 1,400 MWe (power plants of Latina, Trino, Garigliano and Caorso), while construction of the 2,000-MWe Montalto di Castro plant has been suspended by the intervention of the local authorities. In conclusion, the figure of 10,000 MWe nuclear installed is doubtlessly unrealistic at least for 1985. Finally, in order to avoid greater political dependence on the United States as supplier of nuclear fuel, it would be possible to launch a large-scale purchase program that would give our country sufficient autonomy to get through any periods of international tension and protect it from the risk of having to submit to a fundamental instrument of pressure.

It should be kept in mind that because of the greater "energy concentration" of uranium, nuclear fuel, in contrast to all other fuels, can be easily stored in areas of moderate extension. Moreover, there are uranium resources in Italy too, still waiting to be adequately exploited. In the Novazza deposit, the confirmed resources in 1975, at extraction costs of less than $30 per pound of oxide (1975), total more than 1,500 tons of U_3O_8, while in upper Lazio there are low-concentration resources (200-500 ppm): by 2000, with the progress of the prospecting programs, we may be able to count on at least 3,000 t of U_3O_8.

Finally, if it is true that in order to promote rapid nuclear growth in our country we must continue dependent on proven American technology in the sector of ligt-water reactors (LWR), it is also true that Italy is acquiring more and more knowledge, within the national and European frameworks, in the sector of HWR heavy-water reactors (of the CANDU or CIRENE type) and the FBR [Fast Breeder Reactor] fast reactors (Superphenix and PEC). Therefore the time is not so distant when we will be able to count on an entirely European, if not entirely Italian, technology.

Table 5--Land Use for Electric-Power Generation Plants
(Cource: CNEN [National Nuclear Energy Commission])

Type of Plant	Surface Area (km^2)
Fossil fuel	2 (also coal-type and with adjoining areas)
Nuclear	5 (reserved areas also)
Geothermal	10
Thermoelectric solar	80
Photovoltaic solar	120

Note: The figures given express the surface area necessary to ensure production of $6.57 \cdot 10^9$ kWh/year--that is, the product of operation of a 1,000-MWe power plant at a load factor of 0.75. For the solar plants, the datum of mean sunlight at ground level in the Naples zone ([illegible],700 kcal/m^2 per day) has been assumed, as well as 18-20 percent efficiency for the thermoelectric systems and 12-13 percent efficiency for the photovoltaic systems, and a 100-percent load factor (no shutdowns, not even for maintenance).

Concentrated Production of Energy

The response to point (b) is almost self-evident, if we examine the present economic and energy structure of the industrialized countries. Production of energy today, both in the sectors of effective electric-power generation and in the sectors of production of technologies capable of exploiting the various primary sources, is inevitably concentrated. This concentration is due to the lines of development historically followed by industrial progress. A possibility of deconcentration is available with the gradual penetration of solar energy, which is characterized by territorial dilution not only of the points of consumption but also those of production. Nevertheless, while some considerable success of the solar alternative in the areas of domestic heating and production of hot water can be foreseen, it is out of the question to have production of electrical energy from solar energy, competitive with the energy provided by other sources, fossil or nuclear, available in the short to medium term. To demonstrate this, it is sufficient just to make some very simple calculations of the surface areas needed to heat and electrify entire apartment houses, or worse, industrial buildings. And all this without mentioning energy balance-sheets, and especially economic ones. Furthermore, it may be advisable to recall that it would also be difficult for solar power plants to replace the big electric power plants. The data given in Table 5 should be considered.

On the basis of the data given, we can easily calculate the land area needed for a solar contribution to national electric-power generation comparable to that made by hydroelectric sources. If we assume for hydroelectric power production an optimistic estimate of $50 \cdot 10^9$ kWh/year, we obtain a land-area need of 600 km^2 with solar thermoelectric systems and 900 km^2 for the photovoltaic systems--that is, respectively, 1.6 and 2.4 times the surface area of Lago di Garda.

Nuclear Safety

Thus we arrive at point (c) and the problems of safety and the damage caused by nuclear technology to the environment and to human health. As soon as safety is mentioned, one's mind runs to the Harrisburg incident, which was an extraordinary occasion for the imposition of a nuclear moratorium in various countries. Yet we know that the conclusions of the Kemeny Commission, while stressing the inefficiency of the human factor and of the various bodies assigned to operate and control nuclear energy in the United States, confirmed, on the other hand, the reliability of the safety systems. There were too many operator errors and too many monitoring and maintenance deficiencies, with the consequent disastrous effects on the automatic systems. From the debate on the Three Mile Island incident there emerged the excessive pronuclear mental predisposition of many of those responsible for operation and control, but it should be stressed that, even if it is recognized that there are analogous mentalities in Italy, the ENEL [National Electric Power Agency], which is the only operator of nuclear power plants, cannot be put on the same level as the American private electric-power industries. Indeed, because of its very characteristics as a national public concern, the ENEL certainly does not subordinate the safety of the citizens-users to the logic of economic profit, as Metropolitan Edison, the operator of TMI, and probably many other American utilities might have done. Yet despite the unfortunate chain of incidents and malfunctions of the Harrisburg reactor and the numerous complications caused by the American standards, which are certainly complex but also, in a good many cases, less strict than the analogous Italian standards (consider, for example, the differences in the procedures for granting construction and operating licenses), the maximum damage to the population was 70 millirems per person, thanks to the excellent behavior of the containment structures, which held back about 10 million Ci of radioactive iodine as compared with 13-17 Ci released into the atmosphere. And since several antinuclear exponents have declared, presumably in bad faith, that the Harrisburg incident will cut down dozens of victims among the population, it is opportune to recall the conclusions of the Kemeny Commission, according to which the number of additional deaths from tumors owing to the incident will not be appreciable vis-a-vis the number of those who will die from tumors of various origins. In fact, in relation to the 325,000 persons who are statistically destined to die of tumor in Harrisburg County, the additional deaths caused by the TMI incident may be 5 to 10. To be consistent, then, we should inveigh not only against the nuclear industry but especially against any other form of pollution of the environment caused by human actvities, beginning with the chemical industry. If the figures given above seem surprising, there are other figures that confirm them (see Table 6).

It is almost superfluous to stress the enormous disparity between the number of deaths to be charged to the nuclear industry and the number for all the other causes listed.

For further comparison among the average risks of deaths, Table 7 summarizes some results contained in the well-known Rasmussen Report (United States).

Notwithstanding these figures, airplane and automobile trips are something that the general public would not give up and are a part of everyday reality, while it seems that it could do without nuclear power plants, which are mysterious and apparently threatening. During the course of the TMI incident, this aspect of the nuclear question was indeed brought out: fear (in some cases even terror) of radiation caused severe mental stress in the population concerned. Therefore, the greatest effect of the incident was not that due to the nuclear system in itself but rather to the disinformation of the population and the still uncertain and often contradictory measures taken by the experts and the authorities.

Table 6--Estimates of Deaths from Radiation Tumors and Other Causes in the United States

Causes of tumors	Cumulative number of deaths from tumors to 2000	Annual average of deaths from tumors
Radiation from:		
--natural background	200,000	6,700
--X-rays in medicine	100,000	3,300
--fallout from nuclear explosions	7,000	230
--airplane travel	7,000	230
--nuclear industry	90	3
Total from radiation	314,090	10,463
Other causes	11,686,000	389,500

Table 7--Average Risk of Death from Various Causes

Type of incident	Total number of victims per year in the United States	Individual probability per year
Motor vehicles	55,791	1/4,000
Falls	17,827	1/10,000
Fires and high-temperature substances	7,451	1/25,000
Drowning	6,181	1/30,000
Firearms	2,309	1/100,000
Airplane travel	1,778	1/100,000
Falling objects	1,271	1/160,000
Electric shock	1,148	1/160,000
Lightning	160	$1/2\cdot10^6$
Tornadoes	91	$1/2.5\cdot10^6$
Hurricanes	93	$1/2.5\cdot10^6$
Nuclear-reactor incidents (100 reactors)	--	$1/5\cdot10^9$

Let us not forget that at Seveso the effects of the incident were far more serious than mental stress and that the evacuations were ordered and carried out in a state of necessity and certainly not on account of errors of evaluation or excessive precaution. And yet, it being clear and universally acknowledged that we could not do without the chemical industry, even with all its risks, no one (or very few) has seriously challenged the existence of that industrial sector. Nor, after Vajont, were the hydroelectric programs, which today are indeed considered with favor among the alternatives to nuclear programs, challenged.

There is certainly a growing interested in the problems of safety on the part of the nuclear industry: in the last 10 years, a considerable part of the escalation of the costs of nuclear power-plant installation can be attributed to the rising safety requirements. In the United States, two PWR [Pressurized-Water Reactor] power plants, completed in 1971 and 1976, respectively, cost \$150 and \$500 per kWe. The growing interest in safety is evidenced by the quantitative increase in some construction materials: concrete has gone from 0.067 to 0.112 m^3/kWe and steel from 13.6 to 26.4 kg/kWe [2]. After the Harrisburg incident we can expect a further increase in the investments, even though the nuclear system as a whole has passed the difficult test well: in fact, the prime causes of the incident were, on the one hand, control erros and carelessness by the operators, and on the other hand, the malfunctioning of the pilot valve of the pressurizer circuit, PORV, which, blocked open, caused a small but deadly LOCA. On the basis of the Kemeny Commission's conclusions [3], repeated also at the recent Venice National Conference on Nuclear Safety [4], the main lesson to be drawn from TMI is the necessity of paying more attention to the small incidents that have greater probability of occurring rather than to the big incidents that are quite improbable. Meanwhile, there has been a considerable slowdown in the carrying-out of the nuclear plans of many countries, Italy among them, but in the United States, President Carter, although he validated the nuclear moratorium recommended by the Kemeny Commission, which he himself had instituted to investigate the causes of the TMI incident, augured a resumption of American nuclear development as soon as the Commission's most urgent recommendations have been put into effect [5]. The moratorium has therefore been a useful occasion for checking and correcting the present safety criteria and not the prelude to complete abandonment of nuclear plans.

Radiation

The problem of possible incidents is certainly a very serious one, but other more or less well-justified fears are being waved in the face of public opinion by the antinuclear people: in particular, the damage to the environment and to human health during normal operation of nuclear electric-power plants and those deriving from management of radioactive wastes.

We can define as radioactive waste all those wastes--solid, liquid and gaseous--deriving from any nuclear activity. Radioactive emissions of highly variable magnitude can occur throughout the fuel cycle. In the phases of mining and refining of uranium ore, in addition to causing possible geological disorders (which are characteristic of all mining activity, for that matter), 99 percent of the starting ore that contains ^{230}Th ($t_{1/2}$=77,000 years) and ^{225}Ra ($t_{1/2}$=3.8 days) is eliminated. From ^{226}Ra is produced ^{226}Rn ($t_{1/2}$=3.8 days), which, diffusing through the residues from refining, can pollute the atmosphere. With residue-covering layers, the emission rate is reduced by 100 times, but it remains 2-4 times higher than the natural background. And water consumption in these phases of the cycle is considerable also: half a million cubic meters per year is the annual supply of a 1,000-MWe LWR power plant.

The rest of the cycle, to the loading of the nuclear fuel into the reactor, is characterized by negligible losses of material and by environmental impact of no importance.

The energy-generation phase produces solid, liquid and aeriform wastes. As regards aeriform radioactive wastes, for example, a ton of fuel discharged from a LWR reactor (burnup=33,000 MWd/t and cooling time=90 days) contains 380 Ci of ^{131}I. At present, dispersal of the gaseous effluents (during operation of the power plant and during the reprocessing phases) is slowed down, to permit decay of the radionuclides of shortest half-life, while the use of tall chimneys and close attention to local weather conditions permit control of the dispersal and dilution in the atmosphere of the "fumes," which the present safety standards permit to be discharged into the environment (see Table 8) [2 (p 31), 13].

Table 8--Annual Atmospheric Contamination and Dilution Volumes for a 1,000-MWe PWR Power Plant (USA Standard)

Radioactive Effluent	Quantity discharged (mCi)	Standard of reference (pCi/m^3)	Dilution volume (10^9 m^3)
^{85}Kr and ^{133}Xe	$16 \cdot 10^6$	$3 \cdot 10^5$	54
^{131}I inhaled	150	100	1.5
^{131}I ingested	150	0.14	$1.1 \cdot 10^3$

Considerable problems are posed (and will be made greater in future by the advent of the FBR reactors) by tritium, which is assimilable by biological systems in the form of tritiated water. A tritium nucleus is produced every 10^4 fissions in LWR reactors, while the quantity produced in the FBR's is 2-3 times greater. However, "dry" methods for fuel-processing, to free the fission products without use of water, are under study: 99 percent of the tritium could be isolated in this way and packaged as radioactive waste. The liquid wastes--reprocessing water, discharges or losses from the reactor circuits--are differentiated as high-activity and low-activity wastes. In the latter case, discharge is done into the environment, in accordance with the norms established for the maximum concentrations admissible in water, while in the former case, the wastes are reduced to oxides and anhydrous salts, which are then handled as solid wastes.

A 1,000-MWe LWR reactor produces about 30 tons of spent fuel per year, which, after discharge and the cooling provided for, undergoes processes to separate the components into high, medium and low activity. The notorious "slags" are wastes that are active for centuries or millenia and are reduced to volumes equal to about 1/10 of the initial ones, so as to make the management phase less onerous. A 1,000-MWe LWR reactor therefore produces 2-3 m^3 of such slags per year. If nuclear capacity of 60,000 MWe were installed in Italy in 2000, the annual production would be 120 m^3 per year.

Italy does not run any reprocessing plant or slag cementery today, but it is obvious that the problem should be considered from a European and worldwide viewpoint. The choice of the fuel cycle has an influence on this problem: as of 1977, the United States adopted the "open" cycle--that is, without the recycling that permits recovery of U and Pu--while the EEC has gone in the direction of recycling, or "closed" cycle, which allows better exploitation of the fuel and represents the fundamental presupposition for advantageous adoption of the fast reactors. Since the extreme solutions for elimination of the slags (sending them to the sun on rockets or changing them, by nuclear processes, into radionuclides with short half-lives) are unfeasible today for technical and safety reasons (the security of the transport rockets, for example), the only solution is to manage them in storage areas for the purpose. The solid wastes, after reduction of their volume, are set in vitreous or bituminous materials or in cement to reduce environmental pollution and attack by natural agents. In Europe, consideration is being given to the idea of using as cemeteries geologically stable deposits such as salt mines, while the United States seems to be leaning toward using in future a Pacific island (Palmyra) or the ocean trenches. It should also be stressed that the American choice of adopting the "open" cycle is to be considered in relation to President Carter's concerns about possible proliferation of nuclear weapons [6]. Nevertheless, nothing prevents one from supposing that several countries may officially renounce recycling for military purposes while secretly developing installations for those very purposes. Moreover, a doubt exists that the United States may have tried to delay plans for development of the technology of the fast reactors by Western Europe, which today is considerably more advanced in this sector than the United States [7].

At a Fork in the Road

The opponents accuse the nuclear industry of mortgaging the safety and health of future generations, since the threat of environmental pollution by the slags is destined to last even for thousands of years. It is difficult to reply to this accusation briefly, but it is useful to keep it in mind that the next 50 years, with the imminent energy crisis, appear decisive for present human civilization in several regards: renouncing nuclear energy can mean underdevelopment, economic recession, unemployment, social and political instability, and perhaps a serious stoppage in the industrial development that has been under way for 2 centuries, with unforeseeable consequences for us and for our descendants. Today as never before, man finds himself at a fork in the road, with the certainty that whichever road is chosen, his future will be anything but serene. The problem is therefore posed in the following terms: which choice offers the greatest advantages and the least disadvantages? And the answer has to be sought on the world level. It would in fact be of very little help to the future generations for Italy and a few other countries to renounce nuclear development if the same decision were not taken by all the other countries of the earth. Indeed, the consequences of such a decision would fall disastrously precisely on those few that had taken it.

Another negative aspect of thermoelectric power plants, both conventional and nuclear, is the thermal pollution caused by emission into the environment of the residual heat from the fluids used in production of electrical energy. Nevertheless, the present water-type nuclear power plants (LWR's), with thermal efficiency of 33-36 percent, produce thermal pollution greater than that of the conventional oil- and coal-fired plants (whose efficiency is around 40 percent), and therefore present considerable site-location problems: generally speaking, a water source--river, lake or sea--is needed that has a flow of 50-60 m^3 per second per 1,000 MWe in the condenser circuit. Today, though, one can consider building heat-recovery installations (of the "cogeneration" type, that is) that would be desirable from the energy-savings point of view also. But the fast-reactor power plants have a thermal efficiency of 40 percent; the same is true of the High-Temperature Gas Reactor (HTGR) plants with steam cycle, while those with a gas-turbine cycle reach an efficiency as high as 47 percent and more. These systems, therefore, are not at all disadvantageous as compared with the conventional systems.

As regards the fuel cycle, we refer to an American estimate [8] of the savings that could be realized with the adoption of fast reactors (FBR's) or of advanced converters (ACR - Advanced Converter Reactor) and the related recycling of fuel. The fast reactors exploit up to 70-80 percent of the energy content of nuclear fuel (while with the thermal reactors one gets only 1 percent or a little more) and make it possible to use the resources of fertile material (^{238}U and ^{232}Th) in the conversion processes for production of fissile material, so that the total availability of nuclear fuels can be increased 50-70 times. Let us construct an example, taking as the basis of reference a system of 100 LWR plants of 1,000 MWe each. With a "once through" cycle (open cycle), the annual U_3O_8 needs for such plants is 15,000 tons (but for the first charge, 44,000-46,000 tons are needed). By means of recycling, 160 LWR's can be fueled with the same quantity of fuel, while with a symbiosis of LWR's, ACR's (RC [conversion ratio] = 0.9) and FBR's (RC = 1.4), the basic 100 LWR's, 30 additional LWR's, 30 FBR's, and a good 300 ACR's can be fueled: a total of 460 reactors. Let us take a more cautious estimate of a total of only 300 reactors. In conclusion, 15,000 tons of U_3O_8 per year can fuel 100 GWe without recycling, 160 GWe with recycling, and 300 GWe with an LWR/ACR/FBR symbiosis, such as lies in the European prospects. The name "energy factories" given to the ACR's (HWR's [Heavy-Water Reactors] or HTGR's) and the name "fuel factories" given to the FBR's are therefore justified. Let us keep it in mind that while the conventional thermoelectric power plants produce $0.2 \cdot 10^{-3}$ MWd(e) per kg of oil, the LWR's produce about 3-4 MWd(e) per kg (U + Th), the HWR's about 4 MWd(e) per kg (U + Th), and finally, the FBR's produce the quantity of 300 MWd(e) per kg (U + Th). The importance of the alternative offered by the nuclear option appears obvious from these figures. In addition to this, as has already been said, Europe has a strong advantage over the United States in development of fast-reactor technology, notwithstanding all the accusations of Europe acquiescence in the superiority of American industry.

Nevertheless, it should not be forgotten that the fast reactors pose new problems in relation to safety and environmental protection: for example, a ton of spent fuel, discharged from an FBR with burn-up of 33,000 MWd per ton and cooled for 30 days, contains 139,000 Ci of ^{131}I, so that the efficiency of the decontamination systems, in case of emission into the atmosphere, must be increased by a factor of 10^6 (see Table 8). Complete solution of such problems is therefore a presupposition to large-scale adoption of fast reactors.

The doubt has also been raised, in some quarters, that for rapid development of nuclear energy, the total energy expenditure could be greater than the final energy product. This doubt too seems now to have been eliminated. Indeed, according to recent estimates, the time necessary for a power plant to "restore" the energy spent in its construction and for operating is 1 to 2.5 years [7].

The Nuclear Reality in the EEC

Let us now see what the present situation of nuclear development in the EEC is (see Table 9).

Table 9--Nuclear Capacity Installed in the EEC in 1978 and WAES Forecasts for 1985 and 2000 (GWe) [1] (meaning of symbols C, D, C1 and D7 as in Table 1)

	1978	1985		2000	
		C	D	C1	D7
France	6.9	45	35	90	70
FRG	8.1	33	21	50	50
Italy	1.4	10.6	10.6	30	20
Great Britain	7.9	15	14	33	39
Total for Europe	34.0	147.5	106.9	297.2	265.7

For 1985, all the countries show considerable lags except for France, which is successfully completing the PWR plan launched in 1974. In Italy there is dispute over the choice of systems and the siting of the power plants, the option of developing fast reactors (the PEC [expansion unknown] program) is being contested, the construction work on the 2,000-MWe Montalto di Castro power plant has been blocked by the local authorities on the basis of law 393/1975, and finally, there is talk of a nuclear moratorium and a referendum. The French, though, have for some time been aware of the seriousness of the threat of a lack of oil supplies. In 1973 France was in conditions similar to ours, since it depended on foreign sources for 77 percent of its energy consumption. Not having considerable coal resources, and not being able to develop hydroelectric production any further, the French concentrated on nuclear energy. With the PWR program, their dependence on foreign sources will already be reduced by 60 percent in 1985, despite a 30-percent increase in consumption as compared with 1973. From the current 2 percent, nuclear energy will leap to 20 percent of total energy consumed in 1985, and oil imports will drop below the 1973 figures.

Table 10--Per-Capita Consumption of Electrical Energy in Several EEC Countries in 1978 and Rates of Increase over 1977

	Per-Capita Consumption (kWh per year)	1978 Increase over 1977 (%)
Italy	2,940	4.1
FRG	5,400	4.2
France	4,150	6.6
Great Britain	4,800	2.0
Belgium	4,600	4.9

Table 11--Italian Electric-Power Balance-Sheets for the Period 1979-81

	1979	1980	1981
Energy available in network (10^9 kWh)	177.6	187.4	200.1
Production (10^9 kWh)	184.4	195.8	210.2
Increase over preceding year (% of electric-power consumption)	+5.9	+5.5	+6.8

Italy, though, is falling into a disturbing situation of lagging behind the other European countries in the sector of nuclear production of electric power, but fortunately (!), for now, per-capita consumption of electrical energy is below the European average (see Table 10). In Table 9 we saw that the WAES forcasts of nuclear production in Italy were established in 1975, on the hypothesis of strong economic growth, at the figure of 10,000 MWe installed in 1985. Forecasts of the last 2 years, originating with the CNEN and ENEL and reflecting the expectations of the National Energy Plan (PEN) of 1975-77, proved more cautious, dropping to figures of 5.4-7.4 GWe nuclear in 1985. But this implies the building of the Monatalto di Castro power plant and one of the two plants (2,000 MWe each) planned for Piedmont or Lombardy. As is well-known, though, the question of the "sites" is still wide open, while the construction work at Montalto is shut down. Thus, all the forecasts and programming of installed capacity with the various primary-energy sources are upset. For the overall electric-power balance-sheets for Italy in 1979-81, see Table 11.

In the ENEL plans worked out to the end of 1977 [9], a nuclear-power input of 6,438 MWe by 1985 was forecast, which, added to the operational power at the winter peak of 1977 (1,400 MWe nuclear), gave a total of 7,838 MWe nuclear, as against total demand of about 60,000 MWe (excluding the quantities deducted for obsolete plant and the deductions for reserve requirements--800 and 15,000 MWe, respectively). According to more recent ENEL forecasts, all of the above figures should be reduced to the values given in Table 12.

Table 12--ENEL Forecasts of Installed Power (MWe) [10]

	1980	1985	1990
Power available	33,000	48,900	50,700
Reserves	5,600	7,100	7,200
Demand for power	31,400	43,500	60,200

Table 13--Coal and Lignite Reserves and Resources (10^9 tec [tons-equivalent of coal]). Source: World Energy Conference, Istanbul, 1977

	Reserves		Resources	
	Coal	Lignite	Coal	Lignite
The Americas	127	71	1,311	1,409
Asia	219	30	5,494	887
Australia	18	9	214	49
Europe	95	34	536	54
Africa	34	--	173	--
Total	493	144	7,728	2,399

Even though it is not expressly stated, it must be supposed that the forecasts for 1985-90 take account of the nuclear contributions, as confirmed by the CIPE [Interministerial Committee for Economic Planning] to the extent forecast by the PEN of 1977 (December 1979). Even in such case, though, the cumulative lag (which continues to increase), added to the average time for construction of a 1,000-MWe LWR power plant (7 years, not including the site-location phase), leads one to foresee an energy future for the 1985-90 period that does not look rosy. In 1985 we may have available only the 2,000 MWe of Montalto di Castro, the 38 MWe of the CIRENE prototype (from 1982), and the 400-MWe contribution from Superphenix (1983), which is located in France. Under these conditions, the maximum unfulfillable demand (the difference between the power demanded and the maximum power available in peak periods) is forecast to be 1,700 MWe in 1985 and 16,700 MWe in 1990. Thus the forecast, expressed by the president of ENEL, of a "gap" of 100 billion kWh in 1990 does not seem too pessimistic. As we shall see below, recourse to coal, though it is to be desired, cannot by itself remedy so precarious a situation, and it is therefore necessary to carry out, on an accelerated schedule, the nuclear-installation programs as well.

To conclude this chapter, it remains only to refute the antinuclear lobby's accusation (e), according to which it is needless because other sources, renewable or fossile, can substitute for it. This accusation does not hold up either: indeed--as we have already seen, for that matter--no realistic estimate can attribute to the renewable sources (solar, geothermal, wind, power, tidal power, etc) a proportion of more than 10-15 percent in coverage of the national needs in the year 2000. In this regard, see Table 2, in which, from 1985 to 2000, a renewable-sources contribution of 7-10 percent is hypothesized, as against a nuclear contribution in the amount of 7-13 percent in the same period. Furthermore, it is simplistic to think that a "diversion" of investments from the nuclear sector to renewable sources could make possible a "doubling" of the contribution from the latter. As regards the "coal" alternative, though, it is examined in greater detail in the following chapter. Finally, operating costs relative to the two approaches, nuclear and coal, will be compared.

Coal

One strategic reason in favor of recourse to coal is, certainly, the different geographical (and political) distribution of the coal-producing countries as compared with the oil-exporting countries. As regards oil, nearly 75 percent of reserves and resources, as is known, is concentrated in the OPEC countries, so that the prices of this raw material, and indeed the regularity of supplies, are highly subject to the unsteadiness of the domestic and international political situation of the production areas, while there is consistent availability of coal in the industrialized countries (see Table 13), including those of the EEC.

The total resources of coal and lignite come to about 10 trillion tec and can cover more than 1,000 times the world's annual primary-energy needs as determined for 1976 (9 billion tec). But if we refer to reserves only (total of 640 billion tec), we go from a factor of 1,000 to a factor of 70. These simplistic evaluations do not, to be sure, take account of the current real market for coal, but they suffice to reassure us of the great availability of this energy source.

World and Italian Consumption of Coal

World production of coal and lignite in 1975 was 2.6 billion tec, of which only $0.2 \cdot 10^9$ tec was exported, and for the year 2000 it is forecast that the figures will be $5.6 \cdot 10^9$ produced, with $0.5 \cdot 10^9$ tec exported. Exports therefore represent (and will represent) only 8 percent of world production. The reasons for this are to be sought both in the use of fossile fuels in the producing countries themselves, for the purpose of reducing dependence on oil as much as possible, and in the difficulties of transport (lack of infrasturcture) and of utilization (pollution) that impede exportation. From 1955 to today, total world energy consumption has increased 2.5 times, while consumption of solid fuels has increased by only about 2 percent. In Italy, total consumption rose from 32 Mtep in 1955 to 147 Mtep in 1979 (provisional data), with coal's contribution being 8 Mtep in 1955 and 11.2 Mtep in 1979. Total Italian consumption has therefore quintupled since 1955, while consumption of coal has increased by 40 percent, but the absolute figures reveal that its overall incidence on national needs has decreased from the 25 percent of 1955 to 7.6 percent in 1979.

In the period 1955-1974, coal's contribution worldwide has gone, on the average, from 52 percent to 30 percent, and that of oil has gone from 32 percent to 46 percent. Within the framework of the most highly industrialized countries, though, the position of coal proves considerably different. Indeed, while coal consumption in the United States and Japan has continued to grow in the period indicated, even though at a far lower rate than that of oil, a gradual drop in demand and a far more accentuated adaptation to convenient and easy consumption of oil have occurred in the EEC (see Table 14).

Table 14--Contributions of Oil and Coal to Coverage of Energy Needs [11]

		1955		1970		1974	
	Source	Mtep	%	Mtep	%	Mtep	%
World	coal	1,275	52	1,690	33	1,780	30
	oil	776	32	2,273	44	2,742	46
	total energy	2,448	100	5,148	100	6,000	100
United States	coal	283	30	330	21	352	20
	oil	416	44	695	43	785	44
	total energy	946	100	1,607	100	1,771	100
EEC	coal	400	70	309	28	259	21
	oil	117	20	626	57	699	58
	total energy	572	100	1,095	100	1,212	100
Japan	coal	32	56	62	22	57	17
	oil	10	18	199	71	261	76
	total energy	57	100	281	100	344	100
Italy	coal	8	25	9	8	10	7
	oil	12	38	87	74	100	74
	total energy	32	100	118	100	136	100

It is pointless to accuse our governing authorities today of lack of farsightedness, for having favored oil to the detriment of diversification of primary sources. None of the industrialized countries avoided being fooled by the mirage of oil, when its cost was low and dropping. In any case, after 1973 the Western world decided to revive the sources alternative to oil.

Forecasts of Energy Needs

As regards the EEC, see Table 15, which summarizes the forecasts of the EEC's energy needs in 1985, as worked out in 1974 following the Yom Kippur crisis, and also the more recent forecasts (1979) [10, 11]. The "independence"-oriented impetus with which the 1974 forecasts were worked out is obvious, while according to the latest forecasts, the contribution of nuclear energy has been halved in absolute terms and the position of oil has been assumed at the more realistic limit of about 50 percent. As for coal, the forecasts have not changed substantially: the objective remains essentially to slow down the decline of this source, rather than to really revive it. The reasons for this situation are to be found in the increase in the price of oil, which from 1974 to 1978 was less than feared, while as is known, in 1979 there was a sudden jump up to $24 per barrel. In addition, there has been a considerable lag in implementation of European nuclear plans, which, moreover, could never have realistically provided the contribution hypothesized in 1974, equivalent to about 200 GWe nuclear installed in Europe.

The Italian situation is shown in detail in Table 16.

Table 16

Italian Energy Needs in 1985. Source: PEN, Ministry of Industry, 1975

	1980 (minimum hypothesis)		1985 (minimum hypothesis)	
	Mtep	%	Mtep	%
Solid fuels	15.1	8.6	15.1	6.8
Natural gas	33.2	19.0	41.1	18.8
Oil	112.9	64.8	122.5	55.7
Renewable sources	11.6	6.5	12.1	5.5
Nuclear	2.0	1.1	29.0	13.2
Total	174.0	100	219.8	100

Italian Energy Balance-Sheets for 1978-79 and
Forecasts for 1980 (Mtep) [prepared in 1979]

	1978	1979	1980
Coal	10.4	11.2	11.8
Natural gas	22.5	22.8	23.1
Oil	99.5	102.0	105.1
Renewable sources	11.0	10.4	10.8
Nuclear	1.0	0.6	1.4
Total	144.4	147.0	152.2

The forecasts for 1985 bring out a tendency similar to the general European one: considerable nuclear development and a moderate increase in the contribution of coal are hypothesized. But the figures for most recent consumption and the latest forecasts show a considerable reshaping of expectations. The more considerable decreases in 1980 consumption vis-a-vis the 1975 forecasts concern mainly nuclear energy and coal (note that total consumption is very restrained also). Now, though, one perceives an enhancement of the prospects for reviving coal. But where can this revival occur? In other words, what are the most available industrial and energy sectors?

The Balance-Sheet for Coal

In the last 20 years, the biggest demand for coal in Italy has come from the transformation sectors (that is, from cokeries and gasworks) and from the electric-power plants. In 1977, out of total consumption of 13 Mtec, 96 percent was still going to that sector, and in absolute figures, about 10 Mtec was taken by cokeries and gasworks. In short, coal did not disappear entirely from the energy balance-sheets of countries such as Italy that were poor in national resources only because there was no substitute for its role as a "raw material" in the iron and steel industry. If total consumption of coal in Italy has remained at almost the same level from 1955 to today, the cause is to be sought in the fact that even with the development of the steel industry, coal had now been rejected by the other industrial sectors and from domestic consumption, which for heating purposes has turned to the increasingly convenient petroleum derivatives. Today, though, the absorption capacity of the iron and steel industry is saturated, and any eventual revival of coal must be sought in other sectors. Coal's best prospects are offered by thermal production of electric power. In 1977, consumption of coal and lignite in electric power plants was 2.5 Mtec; in 1978, coal alone contributed $2 \cdot 10^6$ tons and the provisional figures for 1979 indicate consumption of $3.2 \cdot 10^6$ tons, while the forecasts for 1980 come to $4 \cdot 10^6$ tons. Table 17 summarizes the principal characteristics of a coal-fired power plant of 1,000 MWe.

Table 17--Characteristics of a 1,000-MWe Coal-Fired Thermoelectric Power Plant

Load factor	0.75
Electrical-energy production	$6.57 \cdot 10^9$ kWhe/year
Fuel requirements	2.02 Mtec/year
Thermal efficiency of plant	40 percent
Heating power of fuel (mineral coal)	7,000 kcal/kg

In 1974, usable coal-fired thermoelectric capacity in Italy was 7,802 MWe, but only 3-4 percent of the electrical energy produced in Italy came from the burning of solid fuels. From that time began the gradual changeover of several plants from fuel oil to coal. At the end of 1978, ENEL's gross power converted to coal was 2,360 MWe, which rose to 3,840 MWe at the end of 1979, while in the period 1979-81 it is hoped to add another 2,960 MWe, for a total of 6,800 MWe at the end of 1981. On the basis of the data of Table 17, there would be an annual requirement of 12-13 million tons, but taking into account the ratio of mixed operation to full power achievable, effective consumption would be in the neighborhood of the 6 million tons estimated by ENEL. Therefore, installed coal-fired capacity is one thing, but actual use of solid fuel is another.

Meanwhile, in order to deal with the lag in development of nuclear power plants, the procedures for getting new solid-fuel installations built, based on 640-MWe sets (2·320 MWe), have been initiated. The CIPE, in its resolution of 1 January 1980, approved the startup of the procedures for installation of three coal-fired power plants of 640 MWe each, at Gioia Tauro, Taranto and Bastida Pancarana, in addition to two new 640-MWe sets to be located in the Po Valley.

National and Foreign Coal Supplies

The opposition to the nuclear option has therefore favored the revival of coal, which should result in the availability of 10,000-18,000 MWe installed in 2000, corresponding to annual requirements of 20-30 million tons of coal. Where can this coal come from? National resources are relatively modest. The confirmed reserves in the Sulcis mines are equivalent to 150 Mtec, and total resources are 400 Mtec. Nevertheless, the Sulcis mines were closed in 1972, and an attempt is being made to reopen them today with considerable modernization of plant. Annual production could vary, in the coming years, from 2 to 4 million tons per year, sufficient to fuel 1 to 2 1,000-MWe power plants, but at such a production rate, the deposits would be exhausted in 50-70 years. One must also keep in mind the rather poor quality of the Sulcis lignite, which has a heating power of barely 4,400 kcal/kg and sulfur content of 6 percent, as against the 1 percent permitted by the Italian standards for fuel uses. At present, lignite is produced in Italy from the mines of Santa Barbara (in the province of Arezzo) and of Pietrafitta (Perugia), for a total of about 2 million tons per year, taken entirely by ENEL's nearby thermoelectric power plants. As regards supplies from abroad, AGIP [National Italian Oil Company] (on behalf of the ENI [National Hydrocarbons Agency]) counts on being able to furnish $4\text{-}5 \cdot 10^6$ tons per year in the time frame of the next 5-10 years, both on medium- to long-term supply contracts, with participation in the mining phase, and by promotion of joint ventures. In this regard, AGIP has already undertaken initiatives in various countries: the United States, Australia, Colombia, Indonesia.

In conclusion, the coal alternative too is synonymous with foreign dependence. Moreover, there are particular problems with transport of coal. To achieve an effective revival of coal, a considerable financial and technological effort on the part of the exporter and of the consumer is necessary, to provide adequate production and receiving infrastructures.

Problems Connected with Transport of Coal

The principal producers of coal today are the United States, the USSR, Poland, South Africa, Australia, Canada and Indonesia, while the major importers are the EEC and Japan. Because of the geographical location of the suppliers, coal must travel a considerable distance before arriving at consumption sites in Italy. After extraction, the mineral is usually sent to ports of embarcation by rail. It is useful to keep in mind that to transport $2 \cdot 10^6$ tons of coal, roughly equal to the annual needs for a 1,000-MWe power plant, 57,000 rail cars with the average capacity of the Italian cars are necessary. An alternative is river transport, where it is possible. On the other hand, the use of "slurry pipelines"--that is, the so-called "coalducts" --which carry a mixture of coal (50 percent) and water or oil, is still at the experimental level. At present, there are only two such pipelines in the United States, 174 km and 440 km in length. The slurry travels in pipes of 40-50 cm diameter, at a speed of about 2 meters per second. If the end-use site--for example, a thermoelectric power plant--is at the end of the pipeline, the mixture is dried to a water content of 15 percent and then burned in boilers. But if the use site is remote from the pipeline terminus, a further shunting of the coal is necessary--to rail, for example.

One large-scale approach to coal transport has been proposed in recent times: the hypothesis of massive development of slurry pipelines in Europe. In such case, it would not be necessary for Italy to develop the infrastructures of many ports to receive the big coal ships, because the coal imported into the EEC would be unloaded in big Atlantic or North Sea ports (in France, Belgium, The Netherlands) and would be sent to Italy from them in the pipelines. In any case, it is obvious that such a solution does not eliminate the economic burdens, because considerable investments are necessary for the pipelines also.

There has also been talk of a pipelines between Poland and Italy, but the proposal has been set aside for the time being--among other reasons, because of the enormous technical difficulties connected with the fact that the pipeline would have to cover a distance of more than 2,000 km.

Let us return to the problems that arise at the ports of embarcation. As is already the case with the oil tankers, ocean transport of coal has tended toward the big ships, which cannot be received in all ports. In Italy, the port of Taranto is being adapted to receive coal ships of more than 100,000 tons, and there had also been talk of building a similar port facility at Gioia Tauro; but in this latter case, the motives for the proposal were more political than economic, being aimed at compensating the zone's population for the development prospects that fell through when the iron-and-steel center was not built when promised. The tendency toward gigantism and specialization in ocean transport of coal is confirmed by another fact: from 1960 to today, within the coal-carrying fleet, the ratio of specialized ships to other ships occasionally used for this task has gone from 1:10 to 10:1.

Once it has arrived in the consumer country the coal has to be forwarded to the consumption site. But the best solution is to provide for consumption near the unloading port, for production of electrical energy, which is easier to transfer. If this is not possible, rail, river transport, or coastal transport in smaller ships is used. One advantage in the trade relations between producers and consumers is the industrial structure of a large number of the producers (belonging to already industrialized countries), which gives good hope of rapid adaptation of the infrastructures. The incidence of the various factors in the cost of the coal imported into the EEC from third countries is summarized in Table 18.

Table 18--Incidence of the Various Factors in the Cost of the Coal Imported into the EEC

Extraction	30 percent
Transport to coast	25 percent
Ocean transport	40 percent
Unloading	5 percent

Table 19--Comparison between Emissions from Two 1,000 MWe Thermoelectric Power Plants, One Coal-Fired and One Fuel Oil-Fired

Effluent	Coal (tons per year)	Fuel Oil (tons per year)
CO_2	$6 \cdot 10^6$	$4.4 \cdot 10^6$
SO_2 (*)	31,600	21,000
SO_2 (**)	--	80,000
CO	2,500	2,200
NO	18,300	8,000
Dusts (***)	2,400	130

(*) Sulfur content 1.2 percent.
(**) ATZ fuel oil with sulfur content = 3.5 percent.
(***) Efficiency of pickups = 98 percent.

In 1978, the coal imported into the EEC cost $30-40 per ton as against $65 per ton for European coal. In effect, one obstacle to a big revival of coal in Europe is the antiquated state of the old continent's coal industry. Big investments are needed today for modernization of the mining techologies; the gradual exhaustion of the open-face mines (which cause very serious injury to the land, devastating it by the square kilometer and requiring huge sums of money to restore it) makes it necessary to develop the exploitation of the deep mines. With this comes a worsening of the "geological ratio," expressed by the number of cubic meters of debris removed per ton of coal obtained: it goes from 0.5 m^3/ton for the open-face mines to 2 to 6 m^3/ton for the deep mines.

Table 20--Orders of Magnitude of Radiation Doses from Various Sources (General Indication)

	Annual Dose in millirems
--population near the Montalto di Castro power plant	
individual maximum to critical group	9
average	< 1
--population within 80 km of the TMI power plant (dose received during specific period following the incident)	
individual maximum	70
average	~ 1
--occupational dose for air transport (due to altitude) in United States	160
--from natural gas used in homes	
average for United States	2
tracheobronchial potential (from radon at 20 pCi per liter)	54
--from radium and thorium from the fumes from a 1,000-MWe coal-fired electric power plant (with the average fuel supply forecast for 1985 in the United States, and excluding doses not calculated from radon and polonium)	
individual maximum (to bones)	380
average (to bones)	70
--same situation with fuel suuply in form of Polish or South African coal (available in Italy)	
individual maximum (to bones)	11
average (to bones)	0.14-2
--from inhalation of the radon contained in coal ashes, if used, in proportion of 20 percent by weight, as a substitute for sand in concrete housing construction (assuming one change of air per hour)	
individual maximum (to longs)	64,000
average (to lungs)	13,000
--same situation for Polish or South African coal ash	
individual maximum (to lungs)	10,600
average (to lungs)	2,200*

* Calculated by ENEL on the basis of the U content (0.0015 percent) in the ashes in question.

In the biggest FRG coal industry, RuhrKohle AG, the number of persons employed in mining has decreased by 33 percent in the last 10 years, but production has dropped 20 percent. The EEC is trying to encourage consumption of European coal by means of incentives, such as a contribution of more than 10 UCE (European Units of Account) (1 UCE = \$1.3) per ton of coal extracted, but this is not enough to cover the considerable price difference between European coal and imported coal.

Pollution and Radiation from Coal

The revival of coal does not encounter obstacles in Europe only. In the United States, the attempts by the Department of Energy (DOE) to induce the American industrialists to make a massive changeover to coal are running up against serious obstacles in the antipollution laws of the Environmental Protection Agency (EPA)--laws which, moreover, seem destined to become harsher in future. The tax incentives and financing facilities for changeover to coal have not produced good results either. Sales of coal-burners in the U.S. market have fallen headlong from 21.9 percent of the total market for fossil fuel-burners in 1977 to 9.4 percent in 1978. And little interest has been raised by the advent of a new type of boiler that considerably reduces pollution (the fluidized-bed boiler) [12].

Pollution is the most negative aspect of the use of coal. Damage to the environment starts with the phase of extraction and purification of the mineral: during drying, there are emissions of 15 tons of dust per 1,000 tons of coal. But the biggest problems occur during combustion, because of the presence of sulfur, which oxidizes to form SO_2, and from the emission of CO_2 and nitrogen oxides. The SO_2 fixes to the particulate emitted and can cause serious injury to the respiratory apparatus. CO_2 could in future magnify the "hothouse" effect--that is, form a stratum in suspension in the atmosphere, permeable to solar radiation but not to the infrared radiation coming from the earth's surface, causing a rise in the temperature of the environment. Coal produces, per unit of energy generated, quantities of CO_2 that are 24 percent higher than those for fuel oil and 76 percent higher than for natural gas. Finally, the nitrogen oxides (NO) alter the cycle of the ozone, which in a concentration of more than 0.02 ppm in the atmosphere causes damage to DNA that is 4,000 times greater than that caused by natural-background radiation of 100 mrem per year.

Table 19 presents a comparison of the emissions from two 1,000-MWe thermoelectric power plants (load factor 0.75), one coal-fired and one fuel oil-fired. Moreover, coal always contains ^{226}Ra and ^{228}Ra, deriving from the decay of U and Th, which are always present in trace levels. The total emission of a 1,000-MWe power plant includes annual emission activity of 2 Ci, reducible to 0.03 Ci/year by means of electrostatic filters. In this regard, the data presented in Table 20, relative to the radiation doses from various sources [4] (these are simply orders of magnitude), are significant.

As regards SO_2, the rate of production permitted in the United States is 15.6 kg per ton of fuel, while the effective rate of production is 40 kg/ton (coal with 2.5 percent sulfur and 10 percent ash); from this derives the necessity of SO_2-abatement systems with efficiencies higher than 60 percent. To make a comparison between the atmospheric contamination due to operation of a coal-fired power plant and that due to a PWR plant, see, respectively, Table 21 and Table 8 [2].

This comparison shows clearly the enormous dilution volume necessary for SO_2, as against the volumes that are 3 to 6 orders of magnitude smaller for the radioactive emissions of a nuclear power plant. This datum should be given careful consideration when one thinks about installing electric-power plants on Italian territory, where, in the more highly industrialized regions of the north, there is high population density and pollution levels that are already notable. If, for reasons of safety and the health of the population, nuclear power plants may not be crowded close to one another, then with all the more reasons must coal-fired plants be territorially "diluted" so as to limit atmospheric contamination and its consequent perils to public health.

Table 21--Atmospheric Contamination and Dilution Volumes for a 1,000-MWe Coal-Fired Power Plant (Coal with 3.5-Percent Sulfur and 15-Percent Ash)

Effluent	Quantity discharged per year	U.S. Standard of reference	Dilution volumes (10^9 m^3)
SO_2	$140 \cdot 10^6$ kg	8 $\mu g/m^3$	$1.8 \cdot 10^6$
Solid particulate	$4.5 \cdot 10^6$ kg	75 $\mu g/m^3$	$6 \cdot 10^6$
^{226}Ra	17.2 mCi	2 pCi/m^3	8.6
^{228}Ra	10.8 mCi	1 pCi/m^3	10.8

Effective Risks to Population Deriving from Coal-Fired or Nuclear Power Plants

Let us now see what are the effective risks to the population connected with the operation of a nuclear power plant or a coal-fired plant. It is difficult to find an unequivocal answer to this question in the specialized literature, because the results of the analyses vary considerably with the different possible approaches. A very interesting model is given by L.B. Lave and E. Seskin [13], who started from analysis of a large number of statistical data for 117 U.S. cities and have constructed doses-effect curves that furnish the mortality rate in function of various parameters. In 1 year, the additional deaths per million persons exposed that would occur in the two cases are as follows:

--coal-fired power plants (3.5-percent sulfur, 15-percent ash): 327 deaths;

--PWR nuclear power plant: 0.0038 deaths.

Therefore, the risk presented by a coal-fired power plant is 100,000 times greater than for a nuclear power plant. If the power plant burned coal with sulfur content of 1.5 percent and had an SO_2-abatement installation with 75-percent efficiency, the risk factor connected with coal would still be three orders of magnitude higher than nuclear plants.

If, on the other hand, one considered in an overall manner the problem of the risks to the population and to the operating personnel during the entire nuclear-fuel and coal cycles, the following conclusions would be reached [2]:

(a) in the case of coal, the greater risks are to the pupulation;

(b) in the case of nuclear energy, the greater risks are to the operating personnel.

Comparison of Installation Costs of Coal-Fired and Nuclear Electric-Power Plants

We now go on to comparison of the costs of the two alternatives, coal and nuclear energy.

Let us begin by examining the installation costs expressed, as is customary, in costs per kWe. For nuclear power, we have many different data available. The PEN of 1975 contained the datum of ~$600/kWe, but the most recent estimates vary between $850 and $1,000/kWe (see also [7], which, updated, give values of $1,000-1,200/kWe. In the U.S. market, oil-fired and gas-fired power plants operative after 1980 are costing $400-500/kWe (1978), while coal-fired plants are approaching the figures for nuclear power plants ($1,000/kWe). For coal, the increases from the figure of $150 per kWe in the middle of the 1960's are explained both by inflation and by the investment costs necessary for desulfuration treatment of the fumes (20-30 percent of the total plant cost). The same problem of safety and environmental protection has affected the nuclear sector, as we have already indicated, producing increases in the cost per kWe.

In any case, both English and American studies [14, 15] agree on a 10- to 20-percent advantage in favor of coal.

Comparison of kWh Production Costs

Let us take a capital cost (in 1979 money) of $1,200/kWe for an LWR power plant and $1,000/kWe for a coal-fired plant, with desulfuration installation (1,000-MWe size), and assuming that entry into service occurs in the mid-1980's. The incidence of capital cost on the kWh cost is $0.0235/kWh for nuclear power and $0.0196/kWh for coal, assuming an annual amortization rate of 12 percent and a load factor of 70 percent, and also including in the estimates the costs of dismantling the plants at the end of their lifetimes (costs heavier for nuclear power).

The incidence of fuel cost on the cost per kWh in the United States is 4 to 10 mills per kWh for coal and 7 mills/kWh for uranium. In the EEC, the cost of coal probably affects the kWh cost in the amount of 10 mills/kWh (the uncertainty is connected with the cost of European coal, which is 30-percent higher than the cost of imported coal). Nuclear fuel (with "open" cycle) accounts for 30 percent of the total cost of the cycle: if the cost of U_3O_8 were to go up 100 percent, the incidence on the cost of the electrical energy produced would be barely 10 percent.

The operating costs--that is, the costs for the functioning of the power plant excluding the fuel costs--affect the overall cost of energy-generation in the amount of 10 percent for coal and 15 percent for nuclear power. In conclusion, it is anticipated in the EEC that in 1985 a kWh will cost 32-46 mills if produced from coal and 32-35 mills if produced with an LWR power plant. At the end of 1978, the following values were estimated in Italy:

--2,000-MWe nuclear power plants (load factor 0.6): 16.8 lire/kWh;

--2,000-MWe coal-fired power plants (load factor 0.6): 21.5 lire/kWh;

--2,000-MWe oil-fired power plants (load factor 0.6): 30 lire/kWh.

After the considerable fossile-fuel price increases occurring in 1979, the latest estimates (rough, but not far from the truth) [5] furnish the following figures:

--nuclear power plants: 20 lire/kWh
--coal-fired power plants: 25 lire/kWh
--oil-fired power plants: 50 lire/kWh.

For further confirmation of the disparity of the orders of magnitude of the costs of the various sources, let us recall that according to American sources [8], the costs per kWh in the United States in 1978 were:

--nuclear power plants: $0.015/kWh
--coal-fired power plants: $0.023/kWh
--oil-fired power plants: $0.04/kWh

Gasification and Liquefaction of Coal

In conclusion, the revival of solid-state coal for electric-power generation is doubtlessly achievable in the short term in many countries, but if carried out on a large scale would produce serious problems of development of the infrastructures necessary and serious pollution problems. In order to solve such problems without ruling out use of the world coal and lignite resources available and without modifying the present technical and economic structure of the industrialized world too much, it has been proposed to use the techniques of gasification and liquefaction of coal.

The idea of converting solid fuels into liquids and gases, with considerable advantages of transport and protection of the environment, is certainly no novelty. The first process for liquefaction of coal by hydrogenation was patented by Bergius in Germany in 1913. We are obviously not referring to production of cokery gas and lighting gas by distillation of coal, and of water gas, air gas and mixed gas by means of gasogenes--processes that were already known much earlier.

Bergius' innovation is based on the discovery that under certain conditions of temperature and pressure, it is possible to "enrich" the molecules of coal with hydrogen, making them more similar to those of crude oil and the petroleum derivatives. The fact is that the hydrogen content, by weight percentage, for various solid fossile fuels and petroleum derivatives can be evaluated as follows:

--gasoline	15 percent
--diesel oil	13 percent
--lignite	6 percent
--fossile coal	5.5 percent

The Bergius process, derived from studies on the thermal and catalytic cracking of petroleum, "breaks" the molecules of coal by heating at high temperatures and pressures (200 atmospheres and 500° C) and modifies their structure, adding hydrogen, in the presence of catalyzers, and eliminating sulfur and other impurities. In 1923--likewise in Germany--the Fishcer-Tropsch process was developed (which, together with the Bergius method, underlies all subsequent processes, including the most recent ones), followed quickly by hundreds of new processes patented in France, Italy, the United States and Japan. The Bergius process is based on the action of compressed hydrogen on heated coals and lignites, pulverized and fluidized with the addition of organic liquids, in the presence of catalyzers, while the Fischer-Tropsch process is based on the action of superheated steam (at atmospheric pressure and at about 190° C) on red-hot coal, with formation of CO and H_2 (water gas), which react with one another, in the presence of a catalyzer, to yield hydrocarbons with low boiling point. With change of the characteristics of the charge and the thermodynamic variables, the end product has a composition that is variable within a vast range of possibilities. One can preferentially obtain a liquid distillate (methanol or gasoline) or a gas (methane). To have a more exact idea of the end product, consider the following composition, by percentage of weight:

--gasoline	62 percent
--diesel oil	26 percent
--paraffin	2 percent
--gas	10 percent

In 1974, at the height of the energy crisis, there was a revival of serious thought about the liquefaction and gasification processes, by which 30 million tons of gasoline were produced in Germany in 1944 and which were abandoned in the postwar period with the increased availability of natural crude at low and dropping cost. According to Linden [16], there were in the entire world, in the mid-1970's, a maximum of perhaps only 200 experts with the technical knowledge needed for exploitation of such processes.

The thermodynamics of these processes is strongly influenced by the characteristics of the charges--that is, by the hydrogen-carbon (H/C) ratio. In order to reduce the task of hydrogenation to the minimum, it is advisable for the H/C ratio to be high (low-grade anthracite), but the German processes are based on anthracite and coke (low H/C). The reaction necessary for producing methane, for example, is:

$$\text{coal} + \text{water} \rightarrow CH_4 + CO_2 \ .$$

Water is used as the hydrogen source. In reality, the process occurs in successive phases [17]:

$$\text{Phase 1} \quad \begin{cases} \text{coal} + \text{steam} \rightarrow CO + H_2 & \text{(I)} \\ \text{coal} + \text{oxygen} \rightarrow CO_2 & \text{(II)} \end{cases}$$

$$\text{Phase 2} \quad CO + H_2O \rightarrow CO_2 + H_2$$

$$\text{Phase 3} \quad CO + 3H_2) \rightarrow CH_4 + H_2O$$

In phase 1, in gasogenes connected with the plant, water gas (3,000 kcal/m^3) is produced--that is, a mixture of hydrogen, CO and CO_2. Reaction (II) expresses the combustion of the coal, when C and O are present in precise stechiometric quantities, and serves to produce the heat necessary for (I). Phase 2 serves to produce, in addition to CO_2, other hydrogen, which is removed before phase 3. In this last phase, methane is produced in the presence of the catalyzer.

Table 22--Temperature and Pressure Specifications Desirable in Reference to the H/C Ratio in Order to Obtain Best Direct Production of Methane

If the H/C ratio is:	T desirable is:	and p desirable is:
high	low	low
low	high	unimportant

To avoid dilution of the end product with the nitrogen of the air, phase 1 must occur with oxygen. The effects of temperature and pressure can be summarized as indicated in Table 22.

Since, on the other hand, the harmful reaction

$$C + H_2O \rightleftarrows H_2 + CO$$

is inhibited by high pressure, most of the processes (especially the German ones, with starting material that has a low H/C ratio) occur at high pressures.

In the United States since 1974, many modifications of the German processes described above have been under study, because the American coals, which are bituminous and sub-bituminous, are unsuitable as charges for the German processes. In many countries, investment priority has been given to gasification over liquefaction for technical reasons (it is easier to do) and economic reasons (it is less expensive). In any case, it is anticipated that gasification will be feasible on an industrial scale within the 1980's, while the advent of liquefaction is expected by the end of the century.

In the United States, there has been a growing shortage of natural gas since 1971, and conversion of coal into methane is therefore more than ever justified. Moreover, the economic distance for an energy carrier, which can be defined as the maximum distance to which a certain "form" of energy can be transported with economic expediency, is 3,000 km for gas--a value that is particularly adequate for distribution to to the consumption centers of the United States. The gasification plants would be installed near the mines of the central-Western states, and from there, the gas would be distributed by gas pipeline to the consumers (in a mixture with natural gas).

The choice of gasification would be all the more justified for Great Britain and the FRG. Nevertheless, the Germans are interested mainly in the traditional national liquefaction processes, which proved their worth in World War II, while the English seem to be leaning toward production of liquid distillates, to go along with the North Sea crude. These strategic choices are of no little importance for Italy too. Our country experienced its economic and industrial "boom" when when large-scale availability of oil occurred--that is, of a liquid energy vector that has an economic transport distance of more than 3,000 km. If solid fossile fuels are converted into liquid synthetics in future, it will be as if the present availability of crude were prolonged, and the possibilities for Italy's remaining among the elite of the most highly industrialized countries will be confirmed.

Possible Directions of Energy Policy and Research for Italy

Italy is too poor in natural resources to think about developing an entire national process for conversion of coal ($850-900 million, in 1975 dollars, for a gasification plant of the U.S. WESCO type, with production of $7 \cdot 10^6$ m^3 of gas per day), and also because large stocks, durable over time, cannot be built up (as is possible, in contrast, with uranium). Nevertheless, Italy can get into the mainstream of use of coal at the water-gas level, not concentrating on production of methane but rather seeking to develop a more economical plant for conversion of gas into methanol (liquid, with heating power of 5,000 kcal/kg). As Biondi [18] points out, the most suitable coal resources of the out-of-the-way and underdeveloped producers could become accessible to Italy in this way. Methanol, as it happens, has a heating power about half that of crude; therefore, to have the same quantity of energy it is necessary to transport double the weight of it as for oil, with a consequent doubling of the transport costs. Nevertheless, the incidence of transport on the total cost of crude is 9-10 percent, and for methanol would therefore be 18-20 percent: an acceptable sacrifice if only to avoid underdevelopment, especially if, in exchange for methanol, we handed over the conversion technologies. According to American estimates [19], production of methanol by nuclear-electrolytic processes (electrolysis, with electricity of nuclear origin, produces hydrogen and oxygen for the gasification process) or nuclear-thermal processes (HTGR) produces conversion efficiencies higher than those of the conventional processes (heat and oxygen produced at the cost of the burning of coal). On the average, the efficiency of the conversion processes already implemented or anticipated is 60-70 percent. For greater clarity, see Table 23.

Table 23--Yields of SCF (Synthetic Carbonaceous Fuels) from Carbon-Base Materials

Starting Materials	Heating Power (kcal/kg)	Methanol yield (bbl/ton)		Gasoline yield (bbl/ton)
		Conventional process	Nuclear process	Nuclear process
Lignite	4,000	4.7-5.5	7.0-9.4	3.4-4.5
Sub-bituminous coal	7,400	8.9	13.3	6.4
Solid urban wastes	2,500	2.2-3.2	3.2-4.9	1.5-7.7
Agricultural products (biomasses)	4,500	3.6-5.1	5.2-7.7	2.5-3.7

N.B. - The methanol and gasoline yields are expressed in barrels of product per ton of starting material.

Examination also of the operating costs and plant-production costs (see [19]) con-advantage of the nuclear processes, for which the use of nuclear reactors for production of heat (HTGR) or electricity (HTGR and LWR) in the nonpeak periods of electric-power demand is supposed. For plants that handle 4,000 tons of coal per day, it is estimated that 54,000 barrels of methanol per day can be obtained with the nuclear processes and 36,000 barrels per day by the conventional processes. Starting with methanol (CH_3OH), gasoline--$(CH_2)n$--can be obtained by the reaction:

$$nCH_3OH \rightarrow (CH_2)_n + nH_2O$$

Synthetic gasoline obtained from coal by nuclear processes would be competitive in 1985 with traditional gasoline from crude at costs of $20 (1975) per barrel, while synthetic gasoline from conventional processes could compete only with gasoline from crude at $29 (1975) per barrel. This can be an opportunity for symbiosis between nuclear energy and coal, exploitable by industrialized countries with coal resources (United States, FRG, Great Britain) or by countries poor in coal but producers of technologies (France, Japan and Italy).

Conclusions

From the preceding examination of the positive and negative aspects of the two major alternatives (or better, the only real alternatives) to oil in Italy, we can draw the following conclusions. Without neglecting development of the renewable resources such as solar energy (for domestic heating, production of hot water for sanitary purposes), geothermal, hydroelectric and wind energy (for production of electrical energy), it is necessary to ensure investment priority for the two alternative sources that give greatest guarantees of reliability and availability in the medium-short to medium term: nuclear energy and coal.

In the sector of electric-power generation, from an eminently technical point of view, nuclear energy presents lower risks than coal as regards the safety of public health and environmental protection, even if use of fossile fuels is often preferred by the population for psychological reasons, due mainly to misinformation.

Unfortunately, though, an objective choice cannot be made between the two primary sources if it is desired to avoid delays in development of the electric-power capacity to be installed for the next decade. In other words, since the nuclear power plants anticipated by the PEN of 1975/77 will not be available by 1985, if we do not want to expose ourselves to the risk of uncertain revivals in construction of electric-power plants between 1985 and 1990 (and also in relation to the objective production capacity of the national electromechanical industry, which is now committed to and "sustained" by exportation), we must bear the greater risks of coal, so as to ward off the threat of underdevelopment.

It is, however, a fundamental objective to avoid, in relations with foreign countries, the historical error committed in the past of making ourselves energy-dependent on a single source, which has put us at the mercy of uncontrollable international situations. The installation and operating costs of coal-fired power plants are comparable to those of nuclear power plants, but the construction times for coal-fired plants are 2-3 years shorter than the times needed for nuclear plants; therefore, in order to guarantee continuity of the development programs, it will be necessary to provide ahead of time for construction of several new power plants burning solid fuels, but while reserving the greatest efforts, between 1985 and 2000, to the nuclear alternative. Indeed, to ensure an annual rate of GNP increase that makes it possible to remain one of the more highly industrialized countries (about 3 percent per year after 1985), it is not possible to prescind from the contribution of nuclear energy for the electrical needs anticipated for the year 2000.

If we suppose that a coal-fired 15,000-18,000 MWe will be installed at the end of the century, we must be able to ensure importation of about 30 million tons per year (not counting the quantities for the iron-and-steel industry, which today are 9-10 million tons). Meeting these requirements (which, among other things, already appear enormous) means tackling very considerable problems of financing for adaptation of the receiving infrastructures--that is, diverting capital which, among other things, would be better employed if earmarked for development of solar energy or nuclear fusion.

We may not permit ourselves to renounce the responsible programming of our future as an industrialized country on the even of the 21st century. We must therefore resolve as quickly as possible the question of the sites for the nuclear power plants and the excessively prolonged doubts about the choice of system. Choosing the PWR's, the BWR's or the HWR's makes little difference: the important thing is not to fall back into a nuclear stagnation such as occurred in the 1970's. Moreover, there are real possibilities today for development of a European system in the fast-reactor sector and we may not renounce them, so as not to be forced to expect from coal or other sources, as the year 2000 approaches, bigger contributions than they can give us.

In conclusion, one can only confirm the necessity of pursuing a policy of diversification of energy sources--a policy which, while recognizing the great potential contributions from renewable sources such as solar energy, especially for domestic uses (and applied research in this direction should therefore be given strong incentives), gives priority to investment in the sector of electric-power production both from coal and from nuclear energy. Indeed, at the beginning of a decade that sees the country lagging in implementation of nuclear plans, it is no longer possible to make a choice between the two sources; rather, it is necessary at this point to adopt a policy of symbiosis between nuclear energy and coal, which is the most realistic policy on the domestic and external political levels and is the only one capable of filling the energy "gaps" foreseeable in the medium term.

It is certain that the difficult problem of finding energy sources that are really adequate to the needs, along with other problems that are no less important, such as that of pollution, can be solved in the medium/long term only with vigorous scientific researh and with a vision of lifestyles that are more oriented toward saving in all fields, not only that of energy.

Manuscript received 14 May 1980

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HENDAYE ETA INCIDENT REVIVES FRENCH-SPANISH FRICTION

Spanish Police Release Terrorists

Madrid EL PAIS in Spanish 25 Nov 80 pp 1, 13

[Article by Fermin Goni: "Spanish Police Release Suspects in Hendaye Attack"]

[Excerpts] The three men who escaped from the deputy police commissioner, serving as commissioner at that time, had been arrested by the civil guard on the frontier and turned over to the police station for crossing the French zone at high speed in a car with false French license plates, failing to halt as ordered and destroying a barrier. This occurred minutes after a terrorist attack was perpetrated in the bar of the Hendaye hotel in Hendaye, which was attributed last night to the so-called Delta Command of the Spanish Basque Battalion (BVE), and only a few days after the Spanish minister of foreign affairs paid a visit to Paris to ask for greater cooperation from France in the struggle against terrorism in the Basque territory.

The dismissal of the deputy commissioner was due to the release of the presumed perpetrators of the attack after they were identified (there is a possibility that they produced some official documentation) and failing to heed the protests of the French gendarmes at the frontier. In connection with this dismissal, official sources at the Ministry of Interior told EL PAIS yesterday that they could not supply his name nor those of the three fugitives, stating that they did not know the identities of the latter, although moments earlier they had said that the deputy commissioner who was dismissed had identified them.

The attack on the Hendaye hotel, located on Liberty Square in the heart of that French city, occurred at 18 45 hours on Sunday. Two persons got out of a Renault car and opened fire with a machinegun on all those present in the establishment, killing French citizens Jean Pierre Haramendy, 68, and Jose Camio, 52, who were playing cards. During the attack former political refugees Manuel Sein Echevarria, alias "Imanol," Juan Jose Inciarte, Leon Irazoqui, Roger Garrigues, Louis Bertani, Jean Mogabure, Michel Imaz, Jean-Louis Hubert, Emile Muley and Pedro Tortosa were wounded.

As a result of the attack, the French police established control points on various highways in the zone and warned the frontier posts to tighten up check measures. However, at about 19 30 hours, a green Renault 18 with false license plates from the department of Landes, with three occupants, reached the Santiago bridge. The vehicle accelerated suddenly as it approached the gendarmes' post, striking one of the barriers located on the Spanish side. The three individuals, who the French police believe might have been responsible for the attack in Hendaye, emerged from the vehicle with their hands up, with the weapons of the civil guardsmen trained on them. After the arrest was recorded, they were turned over to the national police, under the responsibility of the temporary commissioner. A quarter of an hour later they were released and left the frontier zone in the Renault 18.

When the French police learned that those presumably responsible for the attack had been released, the prefect of police in Bayonne telephoned the Spanish consul there, who assured him he was unaware of these events, although he did say he would get in touch with the civil governor of Guipuzcoa. The latter, having heard the report of what happened at the Hendaye hotel from the consul, gave assurance that an investigation of the matter would be initiated immediately. That investigation resulted in the dismissal yesterday of the temporary police commissioner in Irun, who was responsible for the release of the three occupants of the Renault 18 with false French license plates, who, according to the Spanish police, had definite French accents.

The Delta Command of the Basque Spanish Battalion, for its part, telephoned the EFE news agency in Bilbao to claim credit for the attack perpetrated in the Hendaye hotel, stating that the BVE will launch a campaign against Basque refugees in France, Belgium and other European countries.

Yesterday afternoon, there was no knowledge at the Spanish Ministry of Foreign Affairs or the French embassy in Madrid of any official protest by France to Spain in connection with the escape of those presumably responsible for the attack. These authorities would only confirm that the prefect of the Hendaye zone had made a protest to the Spanish consul about the failure of the Spanish police to capture the three individuals who crossed the French frontier, evading any check and destroying a barrier.

Spain Offers Different Version

Madrid EL PAIS in Spanish 28 Nov 1980 pp 1, 11

[Excerpts] French Minister of Foreign Affairs Jean Francois Poncet asked the Spanish ambassador in Paris, Miguel Solano, for identification of those responsible for the attack in Hendaye, in the course of a talk between the two at the French Foreign Ministry on the Quai d'Orsay. While a statement from the Santa Cruz Palace, describing the talk as "cordial and friendly," said that Spain was asked to assist in clarifying the events, a spokesman for the Quai d'Orsay said that during the meeting between Poncet and Solano, the "extreme gravity" of the event was noted by France. The possibility that France may ask that the fugitives be extradited has not been excluded.

Spanish diplomatic sources released a report yesterday to the effect that the three occupants of the automobile which crossed the frontier were members of a group of infiltrators (moles) in the ranks of the ETA [Basque Fatherland and Liberty Group] while in the employ of the intelligence services of the Spanish police, and that they fled the bar of the Hendaye, where they were at the time of the attack, when they heard the first shots. These same sources reported that those responsible for the machinegunning were apparantly members of the ETA who knew that one of the liaison personnel was present on the premises at the time. "French Minister of Foreign Affairs Jean Francois Poncet, through the Spanish ambassador to France, Miguel Solano, has called the attention of the authorities in Madrid to the extreme gravity of the events which occurred on the 23d of this month in Hendaye."

The same source indicated that throughout the talks, the French minister had made it clear to the Spanish ambassador that "France hopes for all of the cooperation needed to identify the attackers who opened fire in the bar of the Hendaye." As Minister of Interior Christian Bonnet noted yesterday, France could ask for the accused to be extradited in accordance with the convention existing between the two countries. Bonnet also stated to the National Assembly that "France cannot tolerate behavior (by the Spanish authorities) which resembles complicity."

At the conclusion of his interview with Poncet, Ambassador Solano said that the statements by the Quai d'Orsay spokesman were "along the lines of the talk we had."

With regard to the subject of the talks, and more specifically the explanations given by Solano, who had been summoned by Poncet, the French Foreign Ministry "believes that it is the Spanish who should deal with the matter." Solano regretted that he "could say nothing," although he explained that "it is impossible to know if total satisfaction was given, but in any case here are his statements about the results of the talk." The source who talked to EL PAIS about the question of French satisfaction with the interview commented: "The only thing which can be said is that French-Spanish relations do not depend solely on the Basque issue."

Spanish Version

"We will inform the French that we have reports that the three persons who crossed the Hendaye frontier last Sunday after the attack at the Hendaye hotel were not the assassins," sources at the Office of Diplomatic Information in Madrid had said a few hours before the talk between the French Minister of Foreign Affairs and the Spanish ambassador in Paris, Miguel Solano.

Again according to the report provided by these sources, the Spanish intelligence services succeeded in infiltrating several "moles" into the ranks of the ETA in the south of France two or three months ago. This infiltration was believed to have decisive influence in breaking up four functional commands of the ETA, which the Spanish police reported in full detail last week. This put the Basque terrorist organization on the track of one of the liaison personnel used by the Spanish intelligence services.

Sunday afternoon, these sources added, the three individuals who later crossed the French frontier illegally were inside the Hendaye hotel when the machine gunning occurred, the perpetrator apparently being a member of an ETA command who knew that one of the liaison personnel was on the premises at that time.

These sources explained that the Spanish government had not published a statement containing this report of the facts for "discretionary reasons," although they admitted that the three individuals in question had "blown the cover" necessary for any kind of work in connection with the ETA.

'LE MONDE' Blames Suarez

Madrid EL PAIS in Spanish 25 Nov 80 p 13

[Article by Feliciano Fidalgo]

[Excerpts] Paris--Paris and Madrid "have never been so far apart," the weekly LE POINT, a liberal periodical, asserted in sensational fashion in a lengthy report analyzing French and Spanish relations in connection with the recent visit paid to Paris by Jose Pedro Perez-Llorca, the Spanish minister of foreign affairs. This same source said that during this trip, the French authorities made it known that they did not desire a visit to Paris by Minister of Interior Juan Jose Roson. The independent evening daily LE MONDE, for its part, in its lead editorial, referred specifically to Prime Minister Adolfo Suarez as "mainly responsible for the poisonous Spanish atmosphere."

Posters advertising the weekly periodical LE POINT, which have been visible since last Sunday in kiosks and advertising billboards in the French capital, show the headline carried on the front page of the periodical reading "The Trouble Between Madrid and Paris." Within the paper, a two-page report begins by noting that "obviously, the Pyrenees continue to stand between Spain and France" as a result of the different views of the two countries on the Basque problem.

It can be inferred from the report that the sources providing information about the visit by Perez-Llorca and the Spanish-French Basque dispute in general were the offices of Prime Minister Raymond Barre and the minister of foreign affairs, Jean Francois Poncet, who talked with the Spanish minister.

"Never have the relations between the two countries been so poisoned since the death of Franco," LE POINT said, before going on to analyze the reasons for this clash between Paris and Madrid.

Extradition

Just as France agreed to the extradition of the German attorney for the Baader-Meinhof Group, Klaus Croissant, and Italian citizens Francesco Piperno and Marco Affatigato, the Spanish authorities, this source said, would like France "to turn over to them, very secretly, because speedy action is necessary, the 130 Basques who are constantly changing their identities." The French authorities are said to believe they are already doing everything possible in the realm of police cooperation and that the most convenient thing for the Spanish government would in fact be "to blame French ill will for the continuation or resurgence of the attacks." It is felt that France should act in such a way as to avoid any threat to "the French enterprises, firms or banks which have already suffered from ETA reprisals in Spain." Also, France is awaiting an election. Raymond Barre, specifically, LE POINT say, has not forgotten the "insulting, and above all vulgar" treatment he received in Madrid during his most recent visit to Spain.

In the course of yesterday, EL PAIS interviewed political parties and the most important agencies of the written press. In all cases it was agreed that "the Basque problem is Spanish" and that France cannot go any further in the realm of police cooperation. In fact, everything LE POINT and the other agencies representing the French media said includes nothing new. The French, from the point of view of their own interests, have always viewed the Basque issue in a certain fashion and their attitude has not changed.

For its part, the daily LE MONDE, which often reflects the basis of French foreign policy in its editorials, concluded its lead editorial column, discussing the demonstration by the extreme right wing on Oriente Square, and the present situation in Spain in general, as follows: "Spain is not on the brink of civil war. The person mainly responsible for the present poisonous atmosphere, in which the demonstration on Sunday takes on disturbing resonance, is, paradoxically, the man who, along with the king, has contributed the most to democratization--Adolfo Suarez. It is not healthy for the same man who achieved the dismantling of the dictatorship, but who has failed in dealing with terrorism and the economic situation, to continue to head a government."

5157
CSO: 3110

YOUNG SOCIALISTS ELECT NEW PARTY BUREAU

Brussels KNACK in Dutch 19 Nov 80 pp 49-50

[Interview with new Young Socialists (JS) officers Martine Deneckere, chairman, and Carlos Polenus, political secretary, by Marc Reynebeau: "Young Socialists: for the Workingman's Rights"]

> [Text] At the congress of the Young Socialists (JS) of the beginning of this month a new bureau was elected that was striking for its youth, even for a youth movement. We had a talk about the problem of a political youth organization with Chairman Martine Deneckere and Political Secretary Carlos Polenus.

[Question] The average age of the new bureau of the members of the new JS bureau [sic] is now about 27 and the chairman is a woman. Is that an accident?

Martine Deneckere: It is by no means accidental. The fact that we are younger is a result of the departure of a generation which had control of the JS since 1970, a generation which took part in May '68. A woman as chairman is the result of a policy which the JS has been following for a few years now of being active in the relationship between feminism and socialism. That is not solely a theoretical matter, rather it is our intention to apply the principles in our own ranks.

[Question] There was a time when people did not have a very clear idea of where the JS ended and where the SP [(Flemish branch of the) Belgian Socialist Party] itself began. Did that have any influence on the effectiveness of the JS?

Deneckere: That did indeed produced difficulties. In the party they had the intention to attract young people [to the JS] and to push them through into the party immediately, while as a youth movement we have a different function in the party, in the form of a sort of opposition movement, against everything that is not completely in line with socialist ideology.

[Question] How then do you evaluate the rejuvenation and renovation which has been seen in the SP?

Deneckere: Naturally we take a positive stand with respect to the renovation movement, because before, for years and years, little or nothing happened in the party. However, we see that there are limits in the renovation movement, both internally within the party and as far as the general party line is concerned. Internally we see that the biggest power structure and opponent of renovation continues to be the federations.

[Question] But it is a democratic principle that the federations have a lot of power and that the party summit does not just dictate everything?

Deneckere: Yes, but we have found that in our party the federations are really further to the right than the party, and work against the party summit. Karel Van Miert, too, has the greatest difficulties with the federations, where the older generations or their creatures are still in office. As far as the general party line is concerned, then, we still see that the party continues to be as quick as before to be inclined to enter the government, without there being any question of any essential socialist positions in the governing program.

[Question] At the most recent JS congress more attention was requested for the problems of the workers' classes. Has that not been happening all along?

Deneckere: Earlier that happened more in a personal manner. The search for contact with the left side of the labor movement as such, however, has never been appreciated as a necessity.

[Question] Where then are the specific differences from the earlier generation of the JS?

Deneckere: Our generation grew up in a different society from that of '68, which lived in a critical period of spiritual drift. My generation has become conscious of the economic crisis, which causes the emphasis of today to be different. For us, the emphasis is on the social and economic problems.

Carlos Polenus: I think that there is also a sociological difference. The generation of youths who were made critical by 1968 brought more intellectual criticism on capitalism. Now you see that the new generation has different criticisms: youth unemployment, the senseless defense budget in a period when people are obviously getting ready for the hunt for unemployed women. That does not prevent this new generation from fitting into the line that has come up since '70 and is now quite full-grown.

[Question] Still you are very much involved in the problems that have been posed by the SP even on the governmental level, such as the nuclear missiles, foreign policy and the defense budget.

Consciousness

Polenus: It is no accident that the problems arise with a renovated basis in the SP. However, they are attacking the superstructure problems to avoid the social and economic ones. Those are certainly sharp topics for discussion, but they must not form an alibi. As the JS we have stated clearly that there must be selfdetermination in all of the segments of society, not only the economic but also the social, cultural and political segments. That also means that we must develop a strategy with respect to the other domains of society. For example, all the basic power groups in the fields of environment, health care and so on are embryos of counterforces outside of the parliamentary party system. They are enormously vital because within the traditional party channels a great number of these problems are not being defined politically. As the JS we have an important task there: we can try to take inventory of these movements and to redefine them into a political framework, the socialist framework. These action groups are involved with parts of the problem, they run the risk of becoming parts of the problem. We can define these partial problems within a whole, in a socialist vision of society. A second contribution is to try to bring about a political expression of them in the SP, and throughout Flanders, where progressive positions are scarcely ever expressed politically, sometimes on the local level to be sure, but not structurally on the level of macro politics. That is not the politics of big slogans but rather the concretization of new fields of political power.

[Question] A certain disenchantment with past actions could be seen from your congress. Is that so?

Deneckere: That disenchantment is not directed so much towards ourselves. Externally, with respect to the other political youth groups, we find that we have not been covered as much by the media. That has to do with several factors, but primarily with the fact that in the past few years the JS has been in a transition period. All of the tenors [leading voices] since 1970 were adopted into the party in 1975-76 without ensuring successors. Frustrations are directed primarily towards other political youth groups, which have taken part in a reverse evolution.

[Question] But I can see a contradiction. On the one hand you say, we do not appear in the media enough, we have to do something about that, and that thing is: we certainly do not want to appear in the media so much.

Deneckere: It is not our intention to appear in public by pushing forward people, through image building the way the PVV [Party of Liberty and Progress] or the CVP [(Flemish) Social Christian Party] youth groups do. Further, an Eric Van Rompuy is the representative of a branch within the CVP that wants to use and misuse its youth group to put forward ideas that are known to derive from the party lobby but which dares not say that. We feel that a youth group must be autonomous. We do want to appear in public, but bearing our own colors.

[Question] It seems to me that your attempt to make connections with the progressive Christians is a remarkable accent in your strategy.

Deneckere: When you go to work at the foundation, with all kinds of actions, you find that there are quite a few youths from the Christian column whom you do not see reflected on the political level. The CVP and PVV youth groups act as though the represented the ideas of the youth. We say that that is not true at all, because we have found that the youth think entirely differently. On the political level the youth movement is totally lacking. That, then, is our frustration. When we try to bring about a progressive movement among the youth in Flanders, we stand practically alone. That is why we have made an appeal to the Christian column, which was primarily an appeal for dialogue, to find out how we as a youth movement can change anything.

[Question] Is this then a revival of the progressive front formation of 10 years ago, which then wielded topics like the pluralistic school, while you are placing the emphasis on social and economic topics?

Deneckere: It is important to make sure that we are involved with social and economic topics, because our interests are in the needs of the youth of Flanders. A second factor is that we see that the Christian Labor Youth is very active on that level. Thus there is a possibility for dialogue. We also noticed that there were a number of ideas in the KAJ [Christian Labor Youth] manifesto that fit in well with ours, such as the choice of grass-roots socialism and selfdetermination.

Polenus: There too there have been ideological revolutions. The traditional selfdetermination positions of the ACV [Federation of Christian Trade Unions] have been more of a limited form of shared control, and now there is a clear tendency toward true selfdetermination. We cannot deny that. This is now a case of consciousness raising. If they permit a Van Rompuy to speak in their name, that is their business. We want to bring them to face their political responsibilities. In that consciousness-raising process, we must retain an opening for dialogue.

[Question] Will you have more success that the proponents of the formation of a progressive front of so many years ago?

Polenus: The problem, naturally, is our acculturated society. We have found that the selfinvolvedness of the youth has become much more flexible. They no longer think in the close columnar packages. But the acculturation and its stabilizing function remains a serious limiting force, also because the new topics we want to introduce cannot simply be housed in one column or another; they are denied.

[Question] If you want to aline yourselves so much with action groups and progressive Christians, that means then that you as the JS do not have sufficient powers of attraction to recruit spontaneously interested youths.

Deneckere: I do not believe that you can put it that one-sidedly. What you always have to remember is that we are the youth movement of a party, for to many of today's youths a party is a threshold. Quite a few young people are opposed to political parties as such, for them that is six of one and half a dozen of the other, they do not provide a solution for the young people's problems. As the JS we are automatically associated with the SP. It is much easier for youths to join an action group than to enter a political youth movement.

6940
CSO: 3105

LIBYANS TRAINED IN USE OF BELGIAN WEAPONS

Brussels DE STANDAARD in Dutch 12 Nov 80 p 1

[Report signed A.K.: "Vanvelthoven: Nothomb Does Not Answer, Libyans Learn To Use Belgian Weapons in Lommel"]

> [Text] Lommel—In a rather deserted field in the community of Lommel, 15 Libyans are being trained in the use of weapons. The theoretical and practical training is being carried out under the supervision of the munitions factory PRB (Belgian United Powder Factories) from neighboring Balen. All of this was made known at a press conference Tuesday by socialist Chamber Member Louis Vanvelthoven of Lommel. "Because Minister Nothomb has not responded to a letter from me about this issue, I wanted to make it public on Armistice Day," Vanvelthoven said.

The delegation of 15 Libyans has been in our country since the end of August. They are staying in a hotel in Lommel. According to documents in the possession of the chamber member, the Libyans, who are all between 20 and 30 years of age, are employed as "employee" or "official."

Along with theoretical training in the use of weapons, practical exercises are being carried out on a field which, according to Vanvelthoven, is the property of the community of Lommel. These exercises, which took place between Monday, 20 October and Friday, 31 October, were recorded on video. Rumor has it that the Libyans will stay in our country until 20 November. The training is being given by two Belgians, one of whom is a retired soldier.

Tuesday morning the Libyans played a game of soccer with a local Lommel team. A photographer who took a few pictures did not prove to be very welcome. He was chased from the field and threatened with a hammer.

Letter

In a letter dated 30 October 1980, Vanvelthoven brought Minister Nothomb up to date on this training and put a number of questions.

"There is reason to be concerned about what results this training of persons foreign to our country and to NATO can have on an international level," says Vanvelthoven.

Vanvelthoven wants to know what relationship exists between the training in Lommel and the government-sanctioned arms shipments to Libya. "These arms shipments are in full swing," Vanvelthoven knows. Friday, 31 October, Monday, 3 November and Tuesday, 4 November trainloads of grenades [the term is used to include explosive shells as well as hand grenades] and mines were sent out from the munitions factory for transshipment to Libya/Tripoli via Zeebrugge.

Terrorism

In the above letter to Nothomb, the chamber member also asks "whether the minister considers it responsible to sell Belgian weapons and to provide the relevant training to the subjects of a state which has already been censured in the past as the provider of weapons and munitions to international terrorism?"

Today, Wednesday, Vanvelthoven is holding an interpellation [putting questions in parliament] with respect to the above-mentioned arms shipments and training.

6940
CSO: 3105

'AKTUELT' CITES DEFENSE MINISTER ON INDEX-LINKED SPENDING

LD291425 Copenhagen AKTUELT in Danish 23 Dec 80 p 10

[HR report: "Defense Budget Up 14 Percent"]

[Text] The Liberals', Conservatives' and center Democrats' call for a 3-percent increase in the Danish defense budget seems simply absurd. A report by Defense Minister Poul Soegaard makes it clear that actual defense spending in 1980 totaled 8,745 million kroner, or 1.11 billion more than in 1979, an increase of 14.5 percent.

It is against this backdrop that discussions are under way as to whether Denmark should expand its defense budget by 3 percent—at a time of spending cuts.

Defense Minister Poul Soegaard published these figures in a report to the Folketing defense committee.

Replying to a question from AKTUELT asking if Denmark's actual position was not such that U.S. and NATO criticism and that of Danish nonsocialists is completely meaningless, Poul Soegaard said:

"I do not want to say anything about the other NATO nations' defense spending trends, but we must be allowed to point out that of all the NATO nations we are the one with the best record as far as price and wage adjustments are concerned.

"We have complete guarantees that our defense budget is given full index-linked compensation."

The defense minister's figures are especially surprising in the light of the domestic debate on defense spending. In 1980 the defense budget was 1.5 billion kroner more expensive than the figure fixed in the national budget bill. This corresponds to an increase of 19.4 percent. But the actual increase is stated as the above-mentioned 14.5 percent.

The increase is principally due to higher fuel prices combined with price increases for the F-16 aircraft and the Lynx helicopters for the navy's fisheries inspection department. The falling value of the kroner has an effect on these acquisitions, which are paid for in dollars. But for defense running costs the trend means an increase of 18 percent in wage and price rises, and cost of living index adjustments to running costs amount to no less than 29 percent.

The planned NATO call for defense spending increases aims at an expansion of the defense forces. But in a comparison of the individual NATO nations' budgets the effectiveness of index linking will enter the picture. For Denmark index linking is 100 percent effective.

CSO: 3106

WORKERS DISCONTENTED WITH TRADE UNION LEADERSHIP

Hamburg DER SPIEGEL in German 8 Dec 80 pp 53-55

> [Text] In almost all individual unions there is unrest at the officials' level directed against the leadership. The coming wage agreements, in which not much can be gained, will probably increase their irritation.

His face motionless, Heinz Kluncker listened to the reprimand. At the last union conference several delegates had accused the 220-pound head of the Public Service, Transport and Communications Union (OETV) of heinous behavior: Kluncker, said those on the podium to the 647 workers' representatives, had only "halfheartedly" pushed the wage demands of the OETV. Other delegates harangued their boss and the union leadership because they supposedly would decide much too autocratically about wage demands. Disappointment about too little input from members could be felt when "our chairman fills the television screen."

The head of IG Chemicals, Karl Hauenschild, fared even worse than Kluncker in the meeting with his cadre of officials.

Representatives of the left wing of the union accused the suave union leader at the last IG Chemicals congress of "flirting" with the employers and "courting" their favor. The leader of the internal union opposition characterized IG Chemicals under Hauenschild as "the red branch of the Salvation Army."

Hauenschild's opponents had a good one-third of the delegates behind them. The chairman received only 69 percent of the votes in the board elections--a serious defeat for union elections, in which 90 percent majorities are customary.

The top men of the largest union, IG Steel, felt the members' dissatisfaction at their last congress. "I agree with many colleagues," said one delegate, "that the militant potential has been used only in part and the actual available strength has been used poorly."

Whenever delegates and board members of employees organizations in the FRG met in recent months--they were mostly bitter hours for the leaders.

Instead of demonstrating solidarity against the class enemy, the leadership generally had to let itself be denounced by the rank and file.

Sometimes they were blamed for not being militant enough, other times the modest wage demands were criticized, and almost always one could hear that the line between the workers in the factory shops and the chairmen in the air-conditioned central offices was disrupted.

Unlike earlier years, the union leaders cannot weaken criticism of their ability by pointing to political successes. Quite the opposite: After the parliamentary elections the top officials can see their influence on the government led by Helmut Schmidt disappearing:

--In the fighting about codetermination for coal and steel workers the Liberals won the upper hand; in 6 years, by the terms of the coalition's resolutions, codetermination would cease in firms like Mannesmann;

--In the haggling about changes in the law, reforms demanded by the unions, such as a ban on loan work or the legal establishment of the 40-hour week, failed completely;

--In the debate on economic politics the unions have so far been unable to push through their demand for costly employment programs.

The union leaders would understandably like to terminate this run of failures at the coming round of wage talks. Their chances of being able to show off sizeable wage percentages to the membership at the beginning of next year are slim: the government and economic experts are supporting the employers in the inevitable demand that the unions should take account of the seriousness of the economic situation through modest wage formulas. The preparations for battle being made in the steel industry show how grimly the struggle for wage increases will probably be fought.

According to the perceptions of the Steel Industry Employers' Association, this time not even the expected price increases are to indicate the lower limit of a conceivable wage agreement. The steel employers want to be guided only by the predicted increase in productivity, and it would not be above 2.5 percent.

The employers' representatives are presenting their actions as being totally in the interests of the community: Only through a wage figure which would orient itself to the increased output per work hour could the rate of inflation be decreased. According to Steel Industry Employers' executive Dieter Kirchner, "the employees profit from that as well."

According to Kirchner's thesis, the increase in prices could be held down to 2.5 percent through moderate wage agreements. This would bring stable real wages and would safeguard jobs.

Union leaders consider the new [illegible] formula "socially irresponsible, economically senseless and dangerous in terms of employment" (IG Metall). With wage increases of no more than 2.5 to 3 percent, according to IG Metall's wage expert Hans Janssen, the employees would have to "accept substantial losses in income."

If the union leaders agreed to the productivity formula proposed by Steel Industry, they would be making at least a unilateral concession: They would be giving up wage percentages, without being certain that the employers would also impose some restraint on themselves concerning prices.

Such constraint appears unacceptable to steel workers' union leader Eugen Loderer and his colleagues. So, in the coming week the board of IG Metall will appeal to the employers to return to "a wage policy of reason"--in other words: to add something to it.

It will not be much in any case, most companies lack the money in a time of high interest rates and enormous competitive pressure. "Wage policies," says steel union man Janssen, annoyed, "are in a deep crisis. Hardly anything can budge them."

9581
CSO: 3103

BRIEFS

RESETTLERS FROM COMMUNIST STATES--Munich, 2 Jan (DPA)--According to figures published by the Bavarian Ministry of Social Affairs, the number of resettlers who arrived in the Federal Republic in 1980 totaled 51,618. This was 6 percent fewer than in 1979. Of the total for 1980, 26,236 came from Poland: 15,767 from Romania (an increase of 9,000 over the previous year); 6,880 from the USSR; 1,737 from Czechoslovakia; 597 from Hungary; and 295 from Yugoslavia. [LD030251 Hamburg DPA in German 1409 GMT 2 Jan 81]

CSO: 3103

PAPER VIEWS NORDIC NUCLEAR-FREE ZONE PROPOSALS

LD021241 Helsinki HUFVUDSTADSBLADET in Swedish 21 Dec 80 p 2

[Editorial: "A Proposal To Consider"]

[Text] For what reasons has the question of nuclear-free zones, after many years of being more or less archive material or a hobby for diplomatic specialists, suddenly once again become a topic which in the Nordic countries have at least begun to involve influential opinion-makers and is considered of great importance in wide circles?

The causes and effects are not difficult to chart. The general background is, of course, the growing international tension, which for the first time for more than 15 years has brought the question of war and peace to a head. The changed U.S. doctrine on nuclear war, which Carter officially made public earlier this year, and the debate on the Euromissiles can also have made a contribution to the need to once again to think about the "unthinkable." In the allied Western European countries there is also an undercurrent of concern, because people in many camps doubt the nuclear umbrella's effectiveness and wonder whether the presence on European territory of nuclear arms does not on the contrary increase the danger of war breaking out.

As far as the specifically Nordic debate is concerned it is easy to see that it has its departure point in Norway. In Norway it is a natural result of the intense soulsearching which has accompanied the decision to stockpile U.S. arms in Troendelag and which has led to such remarkable contributions as former minister Jens Evensen's statement in favor of a reappraisal of the plans for a Nordic nuclear-free zone and Defense Minister Thorvald Stoltenberg's extremely interesting distinctions in the Storting defense debate at the beginning of December between Norwegian base policy and Norwegian nuclear policy. When, in addition, the ruling labor party's recent congress included in the party's manifesto for the period 1982-1985 work toward a nuclear-free zone in the "Nordic area" the impression grows stronger that even though nothing revolutionary is about to happen in Norwegian security policy, there is, nevertheless, greater preparedness to reappraise and redefine than for a very long time.

It is, of course, possible to reduce the Labor Party's stance to a purely tactical maneuver, intended to plaster over the cracks in the party facade before the coming election. It is also possible to see the statement as a gesture, intended to a certain extent to balance the approval given to arms stockpiling. But even if the stance on a nuclear-free zone is given a tactical interpretation, the fact still remains that the party considers that there is sufficient public opinion with an ear for such an idea. Bearing in mind the significance that public opinion possesses in the Scandinavian countries, on matters of foreign policy too, they should not be trivialized.

However, the stance which at the moment affects Finland most strongly comes from Sweden and has an unofficial and personal stamp. It is to be found in two articles in DAGENS NYHETER where Alva Myrdal proposes a nuclear-free zone limited to Finland and Sweden. Even if it is assumed that Myrdal is here speaking on her own behalf, her personal authority and the logic and outstanding experience which characterized both articles give us reason to listen attentively.

Myrdal considers that both the Kekkonen plan and Oesten Unden's somewhat earlier idea for a nuclear-free "club" in Europe have been undeservedly ignored by successive Swedish governments. They have both "been set aside" instead of being accepted as contributions to a debate with a positive aim. Two things are once again making the idea of a nuclear-free zone topical again, according to Myrdal. On the one hand the protest movement in Western Europe--which she perhaps overestimates--and on the other the increased possibilities of winning so-called negative guarantees from the nuclear powers for the states which want to form nuclear-free zones. The negative guarantees, or as Myrdal prefers to call them, the guarantees for nuclear protection, mean that the nuclear powers commit themselves to not using nuclear arms against the states within the zone. If such guarantees are not given, there is a radical reduction in the motivation for nuclear-free zones. Alva Myrdal considers, primarily with regard to the 1978 UN disarmament session, that the chances of getting the nuclear powers to follow such a line are considerably greater than they were in the past.

When she raises the crucial practical question of the demarcation of the zones, she warns against making too grandiose plans--plans that are too ambitious "collapse at the first little difficulty." This is not only true for plans which include large parts of Europe, but also for the Kekkonen plan in its original form, for example. As soon as states belonging to an alliance are drawn into the establishment of a zone, all sorts of difficult considerations and decisions arise. A first opening could thus be made if only Sweden and Finland comprised a zone and attempted to win a "nuclear protection guarantee" from the nuclear powers.

It should be stressed that Alva Myrdal does not have any illusions about what a nuclear protection guarantee would mean in the event of a large-scale war. When all hell is let loose, guarantees can also be pushed aside. However, she sees the protection of two neutral states in Scandinavia as a measure with symbolic significance, which could gradually spread to other parts of Europe. One could also express her opinion thus: that the formation of a zone is chiefly a measure for detente in peacetime, and only secondarily a guarantee of security during a war. The same view undoubtedly inspired the Unden and Kekkonen plans.

There is much that is attractive in Myrdal's arguments, seen through Finnish eyes too. The arrangement she proposes would probably further strengthen the two states' security and their neutral position. The idea of Sweden and Finland as a buffer zone between the NATO and the Warsaw Pact and advantageous to both would be further reinforced. It is also probable that such a breakthrough would in the long run influence public opinion in Norway especially, and perhaps in Denmark, too.

Both the 1978 revised Kekkonen plan and Alva Myrdal's articles strongly underline the fact that the superpowers' collaboration is necessary before a nuclear-free zone in Scandinavia could be set up. It is uncertain how the two superpowers and their allies would react to a proposed zone limited to Sweden and Finland. It is obvious that such a proposal does not have the same advantages for the Soviet Union as one which also embraced Norway. And from the U.S. point of view a nuclear-free zone by the northern Baltic is a matter, at most, of secondary interest.

Alva Myrdal's demarche is, however, a proposal from a single citizen, directed at public opinion in our countries as much as it is at their governments. For this reason it is important that it is given full treatment here in Finland too. Our view is that our country would do well to look closely at and give careful consideration to her argument.

CSO: 3109

TECHNICAL DIFFICULTIES DELAY NEW FIGHTER PLANE

LD241125 Paris LE MONDE in French 21-22 Dec 80 p 9

[Unattributed report: "The Mirage 2000 Program 1 Year Late"]

[Text] "The first production-line Mirage 2000 is to fly in 2 years (...) and a squadron of the 2d Fighter Group at Dijon will be operational during the first half of 1984. This is a 1-year delay in relation to what had been envisaged initially, when work began on the planning. General Guy Fleury, air force chief of staff, expressed himself in those terms in an interview to the bi-monthly AVIATION MAGAZINE INTERNATIONAL, which questioned him in its edition No 792 on the delay in the French Air Force's Mirage 2000 program.

After the flight of the first production-line Mirage 2000, produced by Dassault-Breguet, tests are to continue at the Mont-de-Marsan Military Aerial Test Center in 1983 before the delivery of operational models to the Dijon base during the first 6 months of 1984.

The air force chief of staff explained that an order of about 40 combat aircraft annually is indispensable for keeping to the objective enshrined in the present program law of 450 operational combat aircraft in line.

"To order 40 aircraft this year despite everything, we were led to allow for extra Mirage F-1s. But this 1-year time lag does not threaten the operational value of the entire air force. It simply means that a group will be changed 1 year later than planned at the very outset of the program's launch."

In his interview to AVIATION MAGAZINE INTERNATIONAL, General Fleury did not formally specify the causes of the Mirage 2000's delay. It is known, nevertheless, that this delay is principally due to the difficulties encountered by the private Thomson-CSF group in perfecting the aircraft's new radar in its air defense version, and to the fact that it probably overestimated its ability to devise an equally advanced technology for that type of radar in time.

[Text of this interview appeared in Paris AVIATION MAGAZINE INTERNATIONAL of 15-31 Dec 80 pp 20-23]

CSO: 3100

ERRATUM: This article is republished from JPRS 77093, 2 January 1981, No 1677 of this series, pp 84-91 to correct its placement.

BARRE DEFENSE POLICY SPEECH OF 11 SEPTEMBER 1980

Paris DEFENSE NATIONALE in French Nov 80 pp 9-19

[Speech by Prime Minister Raymond Barre at the opening of the 33rd national session of the Institute for High National Defense Studies, Paris, 11 September 1980]

[Text] This is the fourth time that I have had the honor of presiding at the opening session of a term at the Institute for High National Defense Studies; and it is always a renewed pleasure for me to be in this institute whose renown, along with that of the assembly, is unquestioned.

I take this opportunity to do homage to your staff for the quality of the programs that they carry out and for the dedication with which they animate your studies. I should particularly like to express my complete confidence in Admiral de Castelbajac who has just been designated director of the institute. My presence today is again evidence of the interest that the government attaches to the institute.

In the press conference that the president of the republic held this past 20 June, he stated that "defense problems are among the most complex that arise in the present world."

Your stay at the institute, ladies and gentlemen of the assembly, will make it possible for you to perceive the diversity of their aspects, and to be more aware of their implications. Then, with complete knowledge, you will be able to participate in the effort to obtain the information that is necessary to enable all of our fellow countrymen to understand the true nature, the needs, and the importance of defense in the modern world.

Coming from various sectors, you have the privilege of being able to approach the problems that you will study with a pluridisciplinary approach. From a comparison of your points of view and of your discussions may come a certain number of ideas that will cause our defense concepts to improve.

Now, when you are about to begin your studies, I should like to specify the status of France's security problems and to analyze the two aspects of our defense policy: the prevention of violence through capability, taking into account the variety of situations and the development of techniques and research, and the maintenance of our freedom of action.

1 - France's Security Problems (headings have been supplied by the editorial staff of the magazine).

The world, as you know, is in full evolution. In all spheres--economic, political, strategic--new balances are being sought in an atmosphere of uncertainty, disorder, and sometimes confrontation.

With respect to defense problems, one can illustrate the uncertain and unstable nature of the situations with which we are confronted with three observations.

In the first place, international life is dominated by the relative strengths of the superpowers: those of the United States and of the USSR. Any change in the relative superiority of one or the other of the protagonists alters these realtionships and puts them on another level. These fluctuations are expressed unceasingly by a progression or a regression of influence of one of the powers concerned in this or that part of the world, with inevitable political repercussions for the countries of the area concerned. For several years an acceleration of this process has been manifest. The Soviet government has known how, or was able, during the course of recent years to extricate offensive possibilities from the policy of coexistence instead of restricting itself, as in a less recent past, to an effort at defensive readjustment to the realities of the moment.

In the second place, for lack of a consensus on the part of the great powers concerning the determination of world order, political violence, blocked by the precarious balance between the USSR and the United States, manifests itself in the form of marginal and limited wars, armed intervention, guerrilla warfare, and acts of terrorism in increasing number.

Finally, these manifestations are the visible signs of hidden tension caused by demographic imbalances, unequal distribution of wealth among nations, the degradation by man of his native environment, the curbing of development owing to the huge rise in the price of energy. Those are the real challenges of our times.

Although our country still presents the image of an islet of peace--and I will add even of relative prosperity--in a world that is in the throes of all kinds of difficulties, international instability and uncertainties explain some of the apprehensions of the French people and their renewed interest in defense matters.

France in fact is directly affected by the confrontations, crises, and conflicts that take place in the world: first of all in Europe, where we have vital interests and where a close solidarity and a community of interests bind us to our own neighbors; overseas, where we have some departments and territories and where there are friendly countries with which we have so many ties; everywhere, in short, on land and sea, where freedom of trade and of transit are necessary to the economic life of our country.

Furthermore, because of its past and traditions, France has the duty to contribute to the lessening of tension and to the peaceful settlement of conflicts throughout the world. From geography and from history it derives a mission to restore to Europe the political influence that the crises and the wars of the first half of this century have caused to dwindle.

That is why the idea of defense with respect to France could not be considered from a restrictive point of view: it must be considered in its entirety, because it concerns not only the protection of our land and our interests, but also our commitment to the ideals and the values of our civilization, to peace and the balance of power in the European continent.

II - Prevention of Violence

Among the dangers that could confront our country, there are some that threaten the integrity of the territory, national sovereignty, and our free choice of destiny. These are the things that we must with all priority forestall and avert.

In order to prepare against a variety of possible types of aggression, from diplomatic or economic pressure to possible nuclear bombing, and from having experienced the traditional action of mechanized units, France 20 years ago chose an original defense policy that was adapted to its ambitions, in accordance with its capabilities, applicable to the strategic situation that was appropriate to it.

That policy aims to dissuade any eventual aggressor from engaging in an attack against our vital interests in Europe through the certitude that its action would involve in return, the certain destruction of a considerable part of its cities and of its economy; the damage would exceed by far the benefit that the aggressor could hope for from its action.

That eventual response, to be credible, cannot be of an "all or nothing" nature, because its restrictive and prohibitive consequence cannot be fully and immediately exercized in all circumstances. An aggressor might doubt our willingness to accept the sacrifices for our country that the recourse to nuclear weapons implies and might be tempted to test the reality and the scope of our determination. Likewise, it might consider a nuclear strike decision as unlikely in the case of a minor engagement, on the fringes of our zone of interest, and in that hypothesis might try to proceed by successive nibblings. Finally, other events are conceivable, not very compatible with the threat of the use of strategic nuclear weapons.

To respond to these eventualities, France has conventional forces--land, sea, and air; their engagement, combined if need be with that of tactical nuclear forces, would make it possible either to victoriously oppose an attempt at a minor aggression, or to not leave any doubt concerning the reality of our determination, or again to respond to the need of any situation that might arise in Europe or in the Mediterranean.

The objective of this defense policy is to avoid war by stopping the course of violence in its beginnings. The diversity, complementary aspect, and versatility of our military apparatus must make it possible for the chief of state to bear down on the willingness of opposing leaders throughout the development of a crisis, whether the latter in the beginning is of the type of armed confrontation which either would directly affect us first or would affect only our neighbors and allies before reaching us.

This strategic concept is now giving rise to an intellectual debate in our country that is worthy of interest. In order to appreciate the relative value of the current theses, I should like to bring out some essential points that are too often lost from sight in the discussions.

First of all, in spite of everything that may have been said, or written, on the split in our ways of thinking that has resulted from the nuclear reality, all of its implications have not yet been clearly perceived. Many minds, including the best, continue to reason in old terms about new things, a customary psychological tendency in the case of an epistomological break. In the ferment of strategic thinking, the concept of the use of a nuclear discharge involves some unrealistic viewpoints. It is thus that, in a crisis situation in which we might be engaged, it appears inconceivable that a more or less lasting "tactical nuclear exchange" would not gradually come closer to our national territory.

On the other hand, the United States and the USSR have accepted the idea of a nuclear conflict of a certain duration, possibly limited in nature. These two great powers state, each in a speech made for the sake of the other, that they are ready to admit the possibility of a nuclear war carried out with strategic weapons and pursued up to victory. The Americans believe they can control the conflict and contain it at the level of forces; the Soviets for their part consider it unavoidable to proceed to the utmost. These theses perhaps have a certain rationality. But I note that, beyond the first exchanges that are envisioned, these strategies remain, in the last resort, based on the prevention of violence through the certainty of an assured mutual destruction. Through the use of strategic weapons combined with tactical weapons, the Americans, through dissuasion mean "to prevent the eruption of small wars in vital areas,"* while maintaining an anti-cities capability of response that is sufficient to prevent a conflict from degenerating and to forestall complete destruction to both sides. There is no anti-forces strategy--strategy of war--which in the highest degree is not an anti-cities strategy--strategy of dissuasion.

For our country, there is no problem of a choice between an anti-forces strategy and an anti-cities strategy. The area of possible conflicts would be located at the immediate approaches to our country, and the risk of seeing a confrontation degenerate and affect the national territory is highly improbable. Well, there will never be much hesitation on this point. Any atomic action on French soil is strategically significant because of its relatively small area and because of the density of its population. It would automatically entail an anti-cities nuclear response.

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* Editor's note: Statement of Harold Brown, United States secretary of defense, in the interview he granted to Thierry de Scitivaux, TF1 journalist, broadcast on 2 July in "U.S.A. Documents" of the Information and Cultural Relations Services of the United States Embassy in Paris. The passage referred to here is as follows: "In this way, the existence of strategic weapons, combined with the use of tactical nuclear weapons, serves to forestall small wars from erupting in vital areas through dissuasion. But one must pay the price of this dissuasion and this is the price: if a small war begins, there is a possibility that it will degenerate and bring about complete devastation to both sides."

Besides, even if it wanted to, France, a medium-size nation with limited resources, cannot expect to aspire to equality with the two great nuclear powers. The only path that is open to us is that of the present strategy; its theoretical bases after all appear more certain. The framework for its use is not set and remains sufficiently flexible to respond rationally to all of the needs of our security and the diversity of marginal situations.

The dialectics of the relationship between the Russians and the Americans also show why we intend to continue to remain in control of the decision to engage our forces: we intend to avoid being drawn, in spite of ourselves, into a conflict when our vital interests would not be threatened. I remind you that we in Europe are directly affected by the security of our immediate neighbors; we consequently would not be able to remain indifferent to any action affecting their freedom.

My concluding remark concerns the nuclear weapon with a greater radiation capacity. An atomic weapon first of all, it calls for restrictions of use and significant action at the strategic level. As such, it would naturally take its place in our show of dissuasion by substituting itself in certain cases for the present tactical nuclear weapon, because it is more versatile and more credible with respect to use in no matter which theater. On the other hand we cannot let our security rest on it alone, by taking refuge behind some "China wall" and have it prevent any entry. Throughout history, people have paid dearly for the error of entrusting their safety to a rigid and too easily delimited system, not realizing that the essence of strategy is to counter the willingness of the opponent by having available at all times during the evolution of a crisis the means of appropriate action.

I have dwelt on the risks that our security incurs in Europe because they are of a deadly nature. Our country cannot allow any dilemma in their regard. In 1980, France reached a dissuasion capability that made it possible to forestall a major aggression. This capability will continue in the future. In a difficult economic and social period, the government has authorized an exceptional financial amount for defense. Thus the 1980 budgetary fiscal period credits for this department have increased 17.9 percent, while a ceiling has been placed on the other ministries. The portion of resources thus appropriated from the national revenue is considerable. It cannot continue to increase in an unlimited fashion, under pain of compromising economic development, the equilibrium of internal structures, and the stability of the country.

That imperative necessity influences our types of strategic action, just as it influences the choice of weapons systems, the structures of forces, and the effectiveness of our armament industries. As prime minister, charged with carrying out the choices and budgetary arbitrages, I have always, in accordance with the instructions of the president of the republic, seen to it that our defense has available the financial means necessary for its effectiveness. But, in the difficult economic times that we are experiencing, we accept some considerable sacrifices in other spheres of our national life in behalf of defense. That is why everything must be done to seek the best use of the credits appropriated for our forces, whether for training, modernization, or development; for research; and for the manufacture of weapons.

III - Freedom of Action

Defense does not consist only of protecting us against violence. Its purpose is to also give France complete freedom of action. This concern is at the basis of our foreign actions and of our domestic endeavors to strengthen the country.

Abroad, our steadfast policy of course is to ensure the respect of the legitimate interests of our nationals and to maintain the free access of our trade to sources of supplies that are indispensable to the economy. But, to limit our ambition to that would be to detract from our time honored tradition. France intends to contribute to the establishment of peace throughout the world, just as it intends to reduce the inequalities of development by means of dialog and cooperation. To the extent of its resources, it is willing, through its initiatives to be a factor everywhere for order and progress.

The action in this domain is first of all diplomatic, economic, and cultural but, if circumstances require it, it will rely on the presence, and if need be, the engagement, of military means. Thus in several recent circumstances, and at the request of the governments concerned, France did not hesitate to resist attempts at the destabilization of the African continent. Likewise we were the first to give humanitarian assistance to the inhabitants of countries that were struck by calamities, disease, or famine.

France cannot conduct its defesne strategy and act abroad if its domestic security is not assured. In particular, the implementation of dissuasion is inconsistent with the disorganization of a country and with serious troubles implicating the cohesion of a country.

To realize the conditions that make it possible for our strategic action to act without impediments is the objective of our economic defense and of our civil defense.

France has had the privilege of benefitting for 20 years from a global defense concept and organization. The 7 January 1959 ordinance is based on the principle that defense is not solely military, but extends to all spheres that pertain to the action and responsibilities of the country. It stresses the need for dispositions that make it possible to meet varied situations and at increasingly serious levels of crisis. But the 1959 decrees for the application of the ordinance do not take into account our policy of dissuasion that was determined later. The government, at the request of the president of the republic, has undertaken to make the texts of the ordinance become consistent with our strategic means of action.

Its first preoccupation responds to a concern for coherence. The old texts on civil defense took into account serious and imminent situations that justified survival measures. This view of things corresponds in fact to a defeat of dissuasion. Our

Our present dispositions on the contrary favor measures that can contribute to the success of our strategic action.

Under the direction of the secretary general for national defense, work is in progress in the various ministerial departments to update the texts by adding a new dimension to the existing dispositions. The sought after aim is to have available an entire set of precautionary preventive measures and measures for action, in order to be able to meet increasingly serious crisis situations.

After the texts, arrangements were made to give more cohesion and effectiveness to the defense organization of the various ministerial departments. Therefore, under the direct jurisdiction of each minister concerned have been placed high-level defense officials, charged with seeing to it that the defense concerns are effectively taken into account by the officials who have this responsibility, and that they are translated into suitable dispositions. Simultaneously, at the departmental level, the role of the departments of defense and of the prefectures has been specified and broadened.

There remains economic defense. It is still based on old ideas of organization and of mobilization of the nation in time of war that are no longer suitable for new realities. The definition of a new concept and the realization of appropriate specific dispositions are imperative. This is the purpose of the studies in process, based on the lessons drawn from recent national and international crises.

Our second concern is to ensure the continuity of governmental action and of the functioning of the major services of the country.

The dichotomy between protection plans and defense plans is no longer appropriate. The maintenance of continuity of governmental action, indispensable for the control of crises, is the priority objective. It is thus necessary that in all circumstances the security and the free exercise of the functions of authority and of communications be assured and, foremost among them of course, those that condition the utilization of the forces and the continuance of essential governmental activities.

These conditions will be facilitated by the fact that those responsible for the preparation of the possible implementation of defense measures in time of crisis are henceforth the same ones who in normal times are responsible for the daily functioning of the country. The transference of responsibility from public order to military authority are reduced to exceptional cases, the principle being that the two authorities--civil and military—remain responsible for their specific missions by supplying mutual cooperation to each other.

The protection of populations, one of the components of civil defense, poses a problem. This subject deservedly preoccupies the French people; it will be the subject of your studies. You will have to clearly draw the consequences of three essential specific facts:

- The idea of passive defense if no longer valid; the protection of populations against the direct consequences of a nuclear strike is impossible, and respites after a warning are extremely reduced;

- A policy for extensive construction of bomb proof shelters would involve enormous costs;

- For a relatively small country with a great population density like France, the real protection against bombs lies in the power of dissuasion.

The real debate then is the choice between passive protection or the strengthening of our dissuasion. We cannot do both. This does not exclude, of course, a study of preventive dispositions and the implementation of realistic and realizable measures.

Conclusion

In the unstable world in which we live, France will have more of a capability of providing against foreign dangers and of guarding against any form of violence in proportion to the assurance of its national cohesion and its economic and cultural dynamism.

It is the government's constant desire to realize this condition that is necessary and preliminary to any defense. It is in this direction that its efforts are proceeding, in order to develop our economy, to patiently reorganize our structures--agricultural, industrial, and commercial--to create good and lasting jobs, to ensure social progress, and to reduce inequalities among the French people.

It is the direction that its actions are taking to promote demographic recovery, to prepare the young for future tasks, to stir the spirit of initiative and of responsibility within the entire social structure.

Every population has experienced challenges and ordeals in its history. The people who surmount them emerge stronger; those who give up or surrender no longer count in the world scheme. France up to now has always been able to find the necessary will and resources to meet them and to survive. I, who for 4 years have had the responsibility of carrying out a governmental function in difficult national and international circumstances, should like to say once more that we have nothing to fear regarding either the future of France or the capability of the French people to serve France.

9255
CSO: 3100

GOVERNMENT REPORT ON INDUSTRIAL POLICY DESCRIBED

Naples IL MATTINO in Italian 19 Oct 80 p 4

[Article by Emmanuele Imperiali: "New South, New Incentives"]

> [Text] A special dossier awaits new Treasury Minister Andreatta. Patchwork development requires different instruments in each zone. More money for employment, less for capital. More money for research.

Naples--About 30 bound pages will be waiting on the desk of the new treasury minister, Nino Andreatta, tomorrow. Its brief title does not hide an ambitious project: "Industrial Policy. Reason and Criteria for the Reform of Present Instruments."

A large part of the document is devoted to the South. The document itself indicates the lines of industrial policy and was drawn up by a task force that Andreatta himself formed when he took over as minister without portfolio of the Cossiga government (composed of Giuliano Amato, Enrico Filippi, Franco Momigliano, Fabrizio Onida, Pippo Ranci, Carlo Scognamiglio, G. Rey and G. Graziosi).

Andreatta's economic experts hold a widely-shared opinion: the South is no longer a homogeneous region entirely separate from the rest of the country; the differences within the South are such as to justify its being called a "leopard-spot zone." Economic stimuli will thus have to take this variegated aspect into account. The document says it is possible therefore to scale stimuli by excluding the more developed areas.

It is also desirable to enlarge initial investment incentives by favoring circulating capital with special attention to improving the productive, organizational, and managerial capacity of businesses already in place.

Finally, an infrastructure policy is recommended; it would gradually abandon large projects--such as ports and freeways--and give priority to more articulated infrastructure systems (building access roads, light transportation, telex, and data banks).

This context explains one of the cardinal proposals of Andreatta's economists: to introduce the "employment contribution," perhaps on a 5-year basis as a percentage of the labor cost per member in order to avoid disincentives to hiring specialized personnel. It is emphasized that this contribution would be automatic and not optional, unlike most incentive policies so far adopted.

Contrasts will emerge, however, with the removal of present incentives: the contribution to capital accounts and easier credit. In the past, the contribution to capital accounts has favored high-intensity capital investment, especially Southern steel mills and petrochemical plants, the famous "cathedrals in the desert." Many think that this kind of incentive has now had its day, although the debate on the matter is still open. It is a different story with easier middle-term credit. It is to be restructured, on the one hand by giving banks the total amount of the project to be financed, or nearly, and on the other hand by giving usable aid without having to resort to indebtedness.

Public administration, for its part, perhaps through a new structure for promoting industry in the South, could acquire the capacity for making prompt and thorough surveys of businessmen's needs.

For medium-small businesses, Andreatta's "team" proposes, in synthesis, to make employment contributions by making it optional in lieu of the capital fund contribution, facilitated plant leasing, and public participation in capital formation. For large businesses, however, the options of plant leasing and capital assistance would be excluded, but the rule of capital account contributions would remain. Finally, in the case of initiatives for which easy credit is now provided, an annual allocation would be made; it would be tied to the initial investment but would not be formalized under predetermined indebtedness procedures. In this way, businessmen could decide to apply to an Italian credit institution, a foreign one, or even find financing in the marketplace.

The system of fiscal incentives for the South, according to Andreatta's "pool" study, should be modified gradually. As for income produced by new installations, the plan is to make a total exemption for ILOR [expansion unknown] and a partial exemption for IRPEG [Income Tax on Legal Persons]; but as concerns reinvestment in the South, ILOR incentives may go as high as 100 percent for new building and expansion. Finally, an incentive is provided for in the form of IRPEG or IRPEF [tax on family income] deductions for 70 percent of funds reinvested in new projects in the South. It is also opportune to extend incentives to private parties and promote services connected with production, especially banks and clearing houses, data banks, and energy distribution networks.

Allocations to business research are rather modest in both the North and South at present. They are barely 0.5 percent of the gross domestic product, well below the EEC average. It is therefore necessary to transform the disorganized system of supports in a planning context that will simplify procedures, especially for small and medium businesses, refinance the IMI [Italian Credit Institute] Fund, and promote new public and private research centers.

8782
CSO: 3104

PROBLEMS OF AGRICULTURE IN SOUTH DISCUSSED

Rome IL POPOLO in Italian 26 Oct 80 p 5

[Article by Giuseppe Zurlo: "The Reality and the Needs of Agriculture in the South"]

[Text] The formation of the Forlani government provides an occasion for turning attention to southern agricultural policy and urge a particular, constructive use of national and EEC agricultural policy.

Considered as a whole, southern agriculture has made undeniable technical, productive, and socio-economic progress in recent years, but it is still weak compared to the agriculture of other EEC countries. There is a lack of basic infrastructures (hydrogeological systems, roads, electrification, etc.). The business structure is defective, as it is made up largely of small or very small businesses, and the fragmentation and proliferation of businesses and properties has reached substantial proportions.

Despite the rural and farm exodus of the last 20 years, the agricultural population is higher percentagewise than the national and EEC average.

Southern agricultural production accounts for about 80 percent of fruit, vegetables, table grapes, wine, olive oil, seed grain, and industrial crops. Except for seed grain and olive oil, these crops receive less EEC support than continental produce (beef, milk and cheese products, cereals, sugar, etc.).

Disparity

This disparity in protection has contributed to increasing the divergence between northern and southern European agriculture.

Wine market supports, for example, proved insufficient this year because EEC wine production was abundant, and consumption showed regressive tendencies while the phenomenon of adulteration persisted.

Thus the wine market remains worrisome because there is considerable backlog and the imminent harvest looks good. To this can be added the down market in table grapes, a dramatic sign of which was the recent Barletti case.

The South's production of beef, milk and cheese products has remained stationary, however, and it is completely insufficient to meet Southern needs.

The South buys largely from other Italian regions and foreign countries. Our imports of meat and dairy products help worsen the balance of our food budget, although it is true that the South's contribution to the exportation of wine, fruit, and vegetables, which are the only active part of the food budget, is quite substantial.

Other aspects of weakness in Southern agriculture are the aging of the farm population and the decreasing proportion of young people going into agriculture, not to mention the delay in completing the irrigation programs that have been started.

To all this can be added the persisting imbalance between agriculture and industry.

Despite the installation of large steel, chemical, petrochemical and mechanical industrial complexes, the industrial fabric is still insufficient to insure a high rate of employment. Nor has tourism undergone a development adequate to the natural, scenic resources that the South has to offer.

Therefore, agriculture is destined to remain for some time to come the sector that carries the Southern economy, although it can be foreseen that the process of industrialization may recover and develop in a timely manner.

The lines of agricultural development in the South, however, must proceed toward a balanced expansion of typical products and a qualitative and quantitative increase in our livestock husbandry.

The deficit in the commercial agricultural food budget can be reduced by increasing the rate at which we supply our own food where we now have a deficit, i.e. in particular zootechnical and dairy products, which would make it possible to reduce imports.

This does not mean we wish to follow an anachronistic and autarchical plan, especially since we cannot delude ourselves that we can attain self-sufficiency in food.

We cannot, however, fail to intensify our agricultural export capacity, which would make it possible to reduce the negative balance of payments in food.

Of course, this increase in production will be possible if producers can be assured of prices that will cover their rising production costs.

A Deadline

It is also necessary to equip and develop cooperative and associative structures, especially by correcting imbalances now existing between sectors and territories.

Export businesses must also be reorganized and rationalized, and market research must be extended in order to determine the needs and prospects of foreign consumption.

These, then, are the main lines of the situation and requirements of Southern agriculture in the period preceding the entry of Greece, Spain, and Portugal into the European Economic Community.

Their entry creates a series of institutional, financial, and economic problems in the EEC, but especially for Italy. It should be noted that these countries have crops similar to ours, being typically Mediterranean. Their production costs are lower than ours, especially because of lower wages. It is therefore predictable that the competition will be even keener when Greek, Spanish, and Portuguese agricultural products circulate freely in the EEC, in addition to products imported under favorable conditions from other Mediterranean countries.

The South's agricultural situation and the enlargement of the EEC thus make necessary new and vigorous EEC, national, and regional action to protect agricultural incomes and to renew our agriculture's production and market structures.

8782
CSO: 3104

WIEGEL DISCUSSES REORGANIZATION, DECENTRALIZATION OF PROVINCES

Decentralization on Back Burner

Rotterdam NRC HANDELSBLAD in Dutch 25 Nov 80 p 2

[Report by editorial staff: "Decentralization of Government Tasks Remains on Back Burner."]

> [Text] The Hague, 25 Nov--The transfer of government responsibilities to provinces and municipalities will remain on a back burner for the time being. The fact is that the minister of internal affairs will not get many more powers to prepare and carry out this matter than he has now.

The extreme powers which were advocated through a motion of the PvdA in the Second Chamber to enable the minister of internal affairs to exert pressure on his colleagues to turn over certain tasks to the lower government bodies will not come about. His colleagues must indeed consult with him at an early stage on policy plans in that respect, but that does not commit them to anything.

This is clear from the long-expected decentralization option of Minister Wiegel which was sent to the First and Second Chambers today together with, amongst others, the memorandum of reply and a note of amendments to the bill on administrative reorganization. With this very detailed note Wiegel plans to give a triple start toward a decentralization policy which has been urged for considerable time already by municipalities and provinces but also in the Second Chamber. In all, it still remains a very drawn out matter.

Stocktaking

The note contains a summary of decisions made by and still expected to be made by the government in the realm of centralization and decentralization, as well as stocktaking of areas of government policy in which the possibilities of suggestions for decentralization can be considered further. A number of these areas should yield clearly defined possibilities for decentralization very shortly.

In carrying out its decentralization policy, the government expects to be able to make "substantial" progress, amongst others in areas such as conservation and recreation, traffic and transportation, the regional-economic policy and housing (urban renewal). Ministries with ample possibilities to transfer responsibilities but which are very reticent about it, are, amongst others, those of Social Welfare, Education, and Science and Technology.

Welfare

According to Wiegel it should be possible to arrive at decentralization through conscious interventions in a number of social factors which have contributed to centralization. In that context he refers to the welfare sector where more and more social wants are left up to provinces and municipalities by the government. But centralizing factors can be eliminated also in the government by putting up barriers against centralization and by strengthening provinces and municipalities, entrusting them with more tasks and creating conditions for a democratic and effective . . . . . .[illegible word]

The government wants to regulate the turning over of government tasks as much as possible through broad outline legislation, in the sense of the skeletal law on specific welfare, in which other tasks can still be accommodated.

Golden Cords

The government further strives for improvement of the financial regulations for provinces and municipalities through a better providing of the funds in question and of the possibilities for levying taxes themselves, while also the so-called golden cords (coupling subsidies) must be severed. This does not mean, however, that the government will transfer more money to the provinces and municipalities than it has spent itself on the activities to be transferred.

The position of the regional government services will also be looked at for possible accommodation in the provincial and municipal context, in which personnel problems will likewise come up for discussion.

Support

A special commission from the council of ministers will support the decentralization measures with respect to municipalities and provinces. The minister of internal affairs must limit himself, however, to the taking of initiatives and to the handling of the coordination and the structural measures for the transfer of government tasks, on which he has to submit periodic reports.

Administrative Problems

Rotterdam NRC HANDELSBLAD in Dutch 25 Nov 80 p 2

[Report by editorial staff: "Powerful Provinces Axis of Administrative Polity."]

> [Text] The Hague, 25 Nov--Provinces with at least 300,000 to 350,000 inhabitants, with a cohesive package of tasks, a strengthened set of administrative-judicial instruments, a good financial arrangement and staff, must form the axis of our new administrative polity.

With it, one can administer in a democratic and effective manner without hampering the decentralization of government tasks. Thus one will prevent the province from becoming a "paper tiger" after the administrative reorganization.

This is clear from the memorandum of reply of Minister Wiegel (internal affairs) to the bill on administrative reorganization which went to the Second Chamber today together with the long expected note on decentralization. In it, Wiegel discusses in detail the criticism from the chamber. He also meets the Chamber halfway in various parts, as is clear from a note on amendments.

According to Wiegel the administrative problems require a renewed and alert government which brings the government to the people, attacks the problems at their roots and transfers responsibilities because it is necessary. He pleads again for a practical approach in phases, as he has done many times previously.

Although decentralization to the municipality deserves preference, the minister thinks that in coordinating municipal activities the province should still play a main role. It must draft provincial policy plans and coordinate and guide them further. Therefore the provinces will acquire the right to give guidelines and instructions on supra-municipal matters.

In addition there will be tasks which the government will transfer (regional socio-economic policy, welfare, upkeep of monuments, preservation and recreation, traffic and transport, etc.). All of this requires a new financial polity. The provinces will get the authority to levy real estate tax themselves. Moreover they will get funds for the pre-regions from the government contribution regulation, which must be eliminated in Wiegel's opinion. For indeed, there is no need for a fourth level of government; everyone agrees on that.

Wiegel still sticks to the idea that a few provinces must be divided up so that ultimately 17 new-style provinces will be created. Besides South Holland and Overijssel, the IJsselmeer polders, Gelderland, North Holland and North Brabant will also have to be split up. But the last word certainly has not yet been said on that.

The package of tasks which is "hovering" over the municipalities but which must remain municipal, will be adapted through the new law on communal regulations -- the bill is currently being polished at the ministry of internal affairs -- amongst other measures by tightening the administrative and financial ties between the municipalities participating in the bond of cooperation. Moreover there will be regulations with respect to clustering, integration, publicity and registration of the bonds of cooperation which must come about in every (current) province. From the joining together of various bonds of cooperation, new provinces could then come into being.

Wiegel still fully stands by the possibilities and problems linked to the transfer of government tasks. Wiegel is of the opinion that an end must come to the all-dominating power of the government. The fact that this is not simple is obvious from the decentralization note which bears traces of the "fight" in the cabinet about Wiegel's plans.

Wiegel further announces that he will come out with (legal) proposals in the area of the so-called complementary government. That means that the various levels of administration should be able to exert influence on each other's tasks and authorities by means of consultation and administrative agreements without a dominating role of one of the administrative levels.

According to the minister, retrenchment measures indeed played a "certain, but not decisive, role" in the drafting of his proposals. Thanks to a multi-directional choice and a phased approach without setting a fixed time, the introduction, for example, of the new Police law, for which a draft will be submitted still during this cabinet period, will not have to wait for the enactment of the law on reorganization of the domestic administration.

According to Wiegel, another argument for the gradual introduction of the administrative reforms is the fear of many administrators and civil servants for the changes coupled with them. "It is precisely this socio-psychological aspect which partly induces the cabinet to exercise more care than perhaps would be necessary seen from the legislative- and administrative point of view," says Wiegel.

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CSO: 3105

CONSENSUS ON WEST EUROPEAN ROLE IN WORLD POLITICS SEEN MISSING

Rotterdam NRC HANDELSBLAD in Dutch 6 Dec 80 p 7

[Article by Jan van Iersel, member of the Second Chamber for the CDA: "Dutch Consensus on European Political Role Missing"]

[Text] A striking change in ideas on the relationship with the United States is taking place in Western Europe. Roughly speaking two methods of thinking have been developed on this subject. The first, the English method, is characterized by a search for very close contact with the Americans; from within this close relationship, so to speak, England tries to protect its own interests through corrective action. The second and French method is characterized by creating some distance and a more independent position, and by trying to gain commensurate influence based on this position where domestic interests are concerned; however, the essential aspects of the security ties between the United States and Europe are kept in mind all along.

A good illustration is the way the English and French atomic arsenals are set up. The nature of its weapons systems and the attendant industrial cooperation are in England very closely connected with the American counterparts. France, on the other hand, has followed, within the range of its own possibilities, its own national policy. The way both nations think about NATO is an equally faithful reflection of their philosophies. We see the same difference reflected in the European Community. From the beginning France stressed the essential importance of the United States in discussions on Europe's future: is the United States the deciding factor or are we working towards independence? The actual discussion on scope and contents of the European-American relationship has, especially in France, been going on for many years, openly or latently. During periods when it really mattered France clearly chose the side of the United States. And it is doing so again right now.

There is more than just a difference of words between the above-mentioned philosophies; because the French are at least always keeping the option of an independent course open they are forced to think about that. Therefore, when they let a close relationship prevail, they have weighed the value of the pax Americana. I believe that one of the most important points of Dutch political irritation as regards France has always been the recurring option of independent action while we identify ourselves more with the role America plays, both politically and in matters of security. This policy is based on feelings of closeness towards the United States after the English model.

Distant Friend

There are of course numerous reasons why the Dutch chose this political position. The role of "most faithful ally" of the United States on the European continent was partially chosen to escape the feared dominance of an imagined Paris-Bonn axis. The faraway friend was politically used to protect and maintain our own position. This also suited our country's economic goals towards free and open world commerce, which the Americans had greatly promoted after the war.

This political point of departure also, of course, had consequences for the position as regards the EC. European cooperation was in the first place seen as something commercial to broaden commerce in a worldwide process, while the (real) foreign policy and national security were seen as part of the NATO framework and, even more so, as part of a strongly felt tie between our country and the United States. Consequently there was often a big difference in the way commercial politicians, on the one hand, and security and foreign experts on the other hand viewed the importance of the EC and Dutch-American relations.

I believe that this created the difference, yes, even the deplorable contrast between proponents of Europe and the Atlantic alliance in the Netherlands. The result has been that we never developed an all-round analysis of our situation with due and equal consideration to security and economic aspects; this contributed to our onesidedness.

In the meantime there has been some change. The growing strength of the West European economy and the relative decline of the American economy, and also the shift in the pattern of power relations in the world has created a growing divergence of interests between the United States and Western Europe. There are therefore also tensions. Technological progress in the development of weapons systems did not fail to exert its influence on the relationship between the United States and Western Europe as regards the Warsaw Pact. These developments are reflected in the attitude of the FRG which, on the one hand, fully maintains its ties with the United States, while, on the other hand, it is trying to make room for its special position as regards Eastern Europe. It develops this attitude in close cooperation with France.

Differences of Opinion

So emerges the complicated picture of Western Europe which, although it realizes that it is fully dependent on the security relationship with the Americans, is nevertheless trying to create its own position. Of late coordinating discussions on the highest level have therefore become very intensive. This is based on the thesis that a united West European voice will have the best results for Europeans in West-to-West relationships. Slowly but surely Europe is so arriving at what I called in the beginning the "French" method. For the time being it cannot be predicted how this process will further develop. A combined course of action presupposes combined points of departure and opinions.

On 7 November Van der Stoel argued in the NRC HANDELSBLAD for European coordination in dealing with Reagan and his defense policies. A few days ago Den Uyl adopted the same idea and was applauded during the Socialist International in Madrid. However, who applauded and why? Do other Europeans of his conviction share his opinion of the new American regime, also voiced by Brinkhorst? Prevailing concepts of security are very divergent. French and English socialists cannot possibly be compared. Germans, Italians and Dutch also have different ideas, not to mention the differences of opinion on European security within the parties themselves. The opinions among Christian democrats are somewhat less divergent. But it remains difficult. Fortunately anti-NATO feelings are not noticeable. There is more structural cohesion in the discussions between the states; especially as a result of the German attitude a new pattern is emerging.

French-German cooperation is to a considerable degree based on a common analysis of the U.S. role in the world, which also affects relations with the western world. In spite of the U.S. military might everybody knows how its flag has been challenged of late. The English attitude has lately been shifting pronouncedly in the French-German direction. It is also characteristic that Norwegians and Swedes are trying to get in on "European" points of view. The prospect it leads to is a political (nonmilitary) two-column construction in Atlantic relations. This process has a certain built-in inevitability; I believe that it will appear beneficial for European interests as well as Atlantic cooperation. American voices mention the same ideas, be it under certain conditions.

Obstacles

Shall we succeed by taking this direction? There are still of course many obstacles ahead of us. The opinions of the European countries and the policies based on them are very divergent in nature and contents. There will definitely be no drastic reversals or departures. The national situations and traditions are too deeply rooted and the Atlantic ties are too much of a precondition for all nations concerned. The world situation is indeed dangerous enough. But we start off on the wrong foot by always telling one another what cannot be done. The sluggishness of the process is no argument against it.

This road is also not easy for the Netherlands. We played the role of very faithful ally, but to a certain degree also of corsair under the protection of the United States. If one argues for effective European coordination, of which I am all in favor, one implicitly agrees to a European confrontation of national strategic concepts.

Lack of national agreement certainly does not make our position very comfortable in a discussion on the conditions for European security and coordination of foreign policies to strengthen the European bargaining position.

But we must begin these discussions. In the interest of our own opinions we must seriously get to work without taboos to establish as much as possible one Dutch policy. Withdrawal from participation or childish fear of this "French" method, more or less forced on us, could only harm us. Now it puts our national position in the right perspective.

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CSO: 3105

MILITARY DRAFTS NEW PENAL, DISCIPLINARY CODES

The Hague LEGERCOURIER in Dutch No. 10, Nov 80 pp 10-11

[Report in the Army journal LEGERCOURIER: "Legislation for Alteration Proposed: Military Penal and Disciplinary Codes on the Way"]

> [Text] The government has proposed a package of legislation to alter the Military Justice and Discipline Code. The most important element contained in it is that a sharp distinction is made between the trying of criminal cases on the one hand and the maintenance of military discipline on the other. In the Military Penal Code, only those offenses are made punishable which form an infringement of the primary task of the armed forces. The new disciplinary code contains those actions which affect internal order and against which sanctions are imposed. Soldiers are yet to be heard from about the disciplinary code through centrally organized consultation.
>
> The proposed legislation has been approved by the National Council of Ministers and has been forwarded to the Council of State for recommendations.

Military Chambers at the Courts

Legislation has been proposed earlier which will require the alteration of the construction. It is a matter of definitions with respect to defense, exceptional circumstances and the administration of justice. Of those mentioned, the first two have recently been discussed in parliament. The last mentioned, which has to do with an amendment of the constitution with respect to the administration of justice, is also of interest to the administration of military justice. Specifically, the government's proposal rests on the assumption that in the new constitution the concept "the judicial force" [the bench, in a formal sense] applies to all judicial agencies which perform a lasting function in our legal system. However, only after the amendment will the military judge be a part of the bench de jure. The procedure consists of referring criminal actions against soldiers to military chambers at designated district courts and courts of justice.

To encact these (37) legislative proposals to amend the Constitution, a two-thirds majority of the votes rendered is required in both Chambers. That will be the new chambers, that is to say, the new Second Chamber after next year's elections and the new First Chamber after that chamber has been dissolved as prescribed in the provisions for discussing amendments to the constitution. The new chambers are then to deal with the relevant legislative proposals "in the second reading."

Reprimands, Fines and Penal Service

The legislative proposals offered by Secretary of State Van Eekelen of defense and Minister De Ruiter of justice are the result of a report presented to the Second Chamber in 1971 concerning a revision of the military disciplinary code. Some of the proposals concern the elimination of capital punishment from the entire body of law, and are not therefore a result of the report on military discipline.

The entire package contains a proposal for a Code of Military Discipline, a comprehensive revision of the Military Penal Code and a few other legal amendments.

A proposal to amend the military criminal legal procedure is also to be presented at a later date.

The most prominent alterations listed in the 1971 report were:

--a sharp division between the penal code and the disciplinary code;

--an accompanying distinction between the powers of the criminal judge and the disciplinary authority;

--elimination of lesser offenses from the military penal code, including willful disobedience to service orders;

--new formulation of the disciplinary code of conduct, in which restrictions of fundamental rights and freedoms are legally defined;

--a limitation of the effect of the disciplinary code;

--reform of the package of penalties (abolition of the discipline class and demotion, introduction of fines);

--improvement of the disciplinary legal procedure (right to representation, investigation, right to submit evidence);

--right of immediate appeal of military disciplinary penalties to the military judge.

In the meantime, the abolition of the penalties of assignment to the disciplinary classes and of demotion, and the introduction of fines have already been carried out separately.

In the memorandum in response to the report, it was stated that the disciplinary arrest penalties could be abolished if fines should meet expectations. On the basis of that position, a system of sanctions consisting of reprimands, fines and penal service was adopted in advance of the legislative proposals.

Even though fines have come to play an important role in discipline, it cannot yet be stated definitively that they adequately meet the expectations.

Only after the results of a central study and of the test which has been made of not awarding arrest penalties have been processed can a decision be made about the sanction package.

The cabinet members are of the opinion that parliamentary action on the comprehensive legal reform need not wait for that. The legislative proposals can be adjusted at a later stage by means of a letter of amendment.

Service Order

The primary goal of the legislative proposal, though, remains the sharp distinction between the trial of criminal acts, on the one hand, and the maintenance of the rules of conduct of military discipline on the other. This distinction is brought about in part by revision of the military penal code. In it, only those offenses are made criminal which form an infraction against the primary task of the armed forces. The most important example of that is the regulation about the service order. Noncompliance with that is made punishable on the basis of the military penal code only in the event that such noncompliance is or can be injurious to the operational readiness of a component of the armed forces, or the execution of an operation or an exercise. In this way it is specified as precisely as possible what offenses are punishable on the basis of the penal code. In the new disciplinary code actions are made subject to disciplinary punishment which are not punishable under the penal code because of their different nature (because they only involve internal order). All disciplinary offenses are summed up in the chapter "Conduct Regulations." They contain offenses against the secrecy act, disobedience to service orders, obstruction of the operation of the armed forces, offenses against service orders or service regulations, offenses against persons, official misconduct, offenses against order and abuses with respect to goods and services.

This system differs fundamentally from the present one. The current law on military discipline also mentions offenses as military disciplinary offenses which are criminal offenses which are in conflict with military discipline and order and are of such a petty nature as not to require that they be dealt with as criminal, the so-called improper disciplinary offenses. As a result of this, up until now a great number of criminal offenses have fallen within the domain of military discipline. In the proposed regulation, this possibility is left out. If an act falls under the description of a specification of the Military Penal Code or of another penal code (as for example the Penal Code), then disciplinary treatment is excluded. Even if the public ministry declines to prosecute the act, the disciplinary authority cannot initiate further action.

In this way, a clear dividing line is drawn between the military penal code and the conduct regulations of military discipline.

No More "Referral"

Naturally the new regulations also have an effect on legal procedure. Because of the distinction between the military penal code and the disciplinary code, the procedure of referral which still occurs now in military criminal proceedings will disappear.

[This procedure consists of the commander of the component of the armed forces in which the act has been committed deciding which offenses are to be prosecuted (the referral) and which offenses can be dealt with disciplinarily.] It is clear that referral does not fit in with the proposed format of the material law. In the new situation the public ministry has the sole power of decision as to the prosecution of criminal acts; the military authorities, on their part, decide independently on the treatment of disciplinary offenses.

The new disciplinary code has a limited jurisdiction, to wit:

--when a soldier is on duty or ought to be;

--when a soldier is on or in a military vehicle, building, area or other military site;

--other than those two situations, but only when the law expressly permits a broader jurisdiction (for example in questions of secrecy).

Besides the conduct regulations, the general specifications and the disciplinary penalties, the proposed law on military discipline also regulates the powers to try disciplinary offenses and an entirely new and expanded disciplinary legal procedure.

This last contains among other things specifications concerning the charge, the representative, the investigation, the rules of evidence and the verdict.

The charge is made in writing and can only be issued once for a single offense. Alteration of the charge can be done up until beginning of the investigation. Written advance notice of this must be given to the accused.

No charges are to be placed after 21 days after the commission of the offense, which provides for a form of obsolescence. The disciplinary procedure begins with the lodging of the charges, and ends with the verdict. The disciplinary procedure also ends if no verdict has been reached 21 days after the beginning of the procedure, or upon discharge from the military service. A disciplinary procedure can also be dismissed in the meantime.

The specifications with respect to the representative in the new disciplinary law are generally similar to those in the existing regulation.

The Investigation

The regulation on the investigation provides for the duty of the accused to appear and for the hearing of witnesses and experts. In general the investigation begins not sooner than 24 hours after the charges have been issued. The accused is not obliged to answer during the investigation. The investigation is not public.

The following are recognized as evidence: Findings by the commander himself, statements by the accused, witnesses and experts, and documents. The commander is to reach a decision on the first working day following the conclusion of the investigation at the latest, and is to put this decision, the verdict, in writing. The decision can lead either to the imposition of a disciplinary penalty or not, to acquittal, or to the decision that there is a question of a criminal act. In the last-mentioned case, the commander has no authority and he is obligated to place charges in the prescribed manner.

Appeal

The possibility which has existed up until now of lodging a complaint against either the disciplinary penalty or the grounds for punishment with the so-called punishment superior is abolished. Instead, within 5 days appeal can be made to the courts (it appears that court martial will be replaced by military chambers within the regular courts). The written appeal must be tendered to the commander.

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CSO: 3105

CONSERVATIVE PAPER WELCOMES QUESTIONING OF DEFENSE 'AMBITIONS'

LD311435 Stockholm SVENSKA DAGBLADET in Swedish 28 Dec 80 p 2

[Editorial: "Defense in Our Time"]

[Text] A few days before the Riksdag went home for its Christmas recess Gunar Bioerck undertook something which in parliamentary circles may have seemed almost indecent. He spoke about Sweden's defense, not as a budgetary factor or as an instrument of the National Labor Market Board, but as a living necessity for our people as a free nation in a darkening world.

He did not hesitate to refer to the greatest parliamentarian of our century, Winston Churchill, who practically alone in his own country saw World War II coming while his colleagues, who were considered more balanced and reliable, were devoting all their attention to the League of Nations hot-air chamber in Geneva, to disarmament conferences and as a final resort to summit meetings. Mr Bioerck was tactful enough not to mention what he must have been thinking about--the meeting between Chamberlain and Hitler in Munich--a meeting which was greeted as a breakthrough for detente by a choir of jubilation and which led within a year to the outbreak of World War II.

However, the speaker quoted with devastating irony the defense committee's words that "reductions in ambitions have been part of our military defense's activities for a long time now." And of the next imminent cutbacks the committee writes with a marvelous choice of words that they seem to be "the least harmful for the strength of the defense forces."

The military buildup in our area goes on unabated. South of the Baltic a bloody conflict with incalculable consequences could break out at any time. In the Middle East, the world's prime source of energy, an open war is raging. The Russians are still in Afghanistan....

Against this background, which is probably familiar to some of its members, the Swedish Riksdag is taking steps, in the words of the defense committee, to harm the Swedish defense forces' strength.

The key word in the context is reductions in ambitions.

What this actually means is pointed out clearly but discretely in the report for the latest financial year which has recently been presented by army chief Lt Gen Nils Skoeld.

Mr Skoeld sums up his evaluation as follows: "The year's results are acceptable." It is pleasing that the level of motivation among the conscripts has grown--"good spirits are clearly in evidence."

However, there is otherwise not much to be glad about. For the army chief stresses that the "acceptable" results are only acceptable in relation to "a goal with a number of limitations."

We have reached the bottom limit for the length of training, he claims. Recruitment of regimental officers is too low. The ability of regular officers to lead their troops has also deteriorated. It has not been possible to reinforce the conscripts' knowledge during basic training "so that it will definitely remain at an acceptable level after 4 years," that is, at the time of the first refresher course. The all-round character of training has been limited--needless to day, to the detriment of the troops' endurance. Joint exercises have not taken place to the extent desirable....

Mr Skoeld and his comrades have obviously done everything possible with their limited resources. That the results are--well, largely--acceptable in relation to what the politicians have contented themselves with is the responsibility and achievement of our military leaders.

But the more serious question remains: whether these ambitions are sufficient in an age and in a world which persists in looking the way it does.

Many people are asking themselves this question with concern, while the defense committee contentedly imagines itself to have found the least harmful alternative for our defense forces....

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